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April 1977

A PLASMA MODEL OF MISSILE EXHAUST PLUMES
(Axial and Radial Conductivity Distributions for the Redeye Missile)

Georgia Institute of Technology

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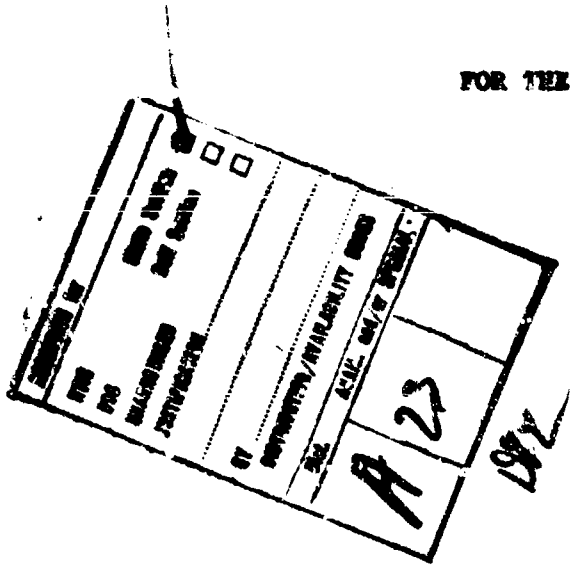

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The effort reported on is part of a program to completely specify the susceptibility effects of the electromagnetic environment on weapon systems. Since the electromagnetic coupling into a system is dependent upon skin currents, the electrical properties and the effects of the exhaust plume must be completely determined. This report provides a mathematical description of the chemical and electrical characteristics of a typical tactical rocket. In particular the coaxial and radial distributions of the constitutive parameters

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in the wake of the rocket are developed from a plasma model of the exhaust plume.

PREFACE

This effort was conducted by Georgia Institute of Technology under the sponsorship of the Rome Air Development Center Post-Doctoral Program for RADC. Jack Edwards of RADC/RBCA was the task project engineer and provided overall technical direction and guidance.

The RADC Post-Doctoral Program is a cooperative venture between RADC and some sixty-five universities eligible to participate in the program. Syracuse University (Department of Electrical Engineering), Purdue University (School of Electrical Engineering), Georgia Institute of Technology (School of Electrical Engineering), and State University of New York at Buffalo (Department of Electrical Engineering) act as prime contractor schools with other schools participating via sub-contracts with the prime schools. The U.S. Air Force Academy (Department of Electrical Engineering), Air Force Institute of Technology (Department of Electrical Engineering), and the Naval Post Graduate School (Department of Electrical Engineering) also participate in the program.

The Post-Doctoral Program provides an opportunity for faculty at participating universities to spend up to one year full time on exploratory development and problem-solving efforts with the post-doctorals splitting their time between the customer location and their educational institutions. The program is totally customer-funded with current projects being undertaken for Rome Air Development Center (RADC), Space and Missile Systems Organization (SAMSO), Aeronautical Systems Division (ASD), Electronics Systems Division (ESD), Air Force Avionics Laboratory (AFAL), Foreign Technology Division (FTD), Air Force Weapons Laboratory (AFWL), Armament Development and Test

Center (ADTC), Air Force Communications Service (AFCS), Aerospace Defense Command (ADC), Hq USAF, Defense Communications Agency (DCA), Navy, Army, Aerospace Medical Division (AMD), and Federal Aviation Administration (FAA).

Further information about the RADC Post-Doctoral Program can be obtained from Mr. Jacob Scherer, RADC/RBC, Griffiss AFB NY 13441, telephone Autovon 587-2543, commercial (315) 330-2543.

The authors would like to acknowledge the assistance of the following people at MICOM, Huntsville, Alabama, for providing support during the LAPP rocket exhaust analysis: Captain R. Darone, Dr. G. Brown, Dr. W. Walker, and Dr. W. Jenkins.

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I. INTRODUCTION

It is well known that skin currents on a missile may be greatly modified in the presence of the exhaust plume, since any electromagnetic radiation incident on the rocket body will also penetrate through the exhaust plume, created by the rocket motor. Therefore, to completely specify the electromagnetic environment of the rocket in powered flight, the electrical properties of the exhaust plume must be calculated from a knowledge of the chemical/thermodynamic reactions and mixing schemes which are thought to occur along the turbulent wake of the rocket's trajectory.

The objective of this report is to provide a mathematical description of the chemical and electrical characteristics of the rocket exhaust plume of a typical tactical rocket, such as the Redeye Missile. In particular, the axial and radial distributions of the electrical constitutive parameters in the wake of the rocket are developed from a plasma model of the exhaust plume. These data must be known before a physical model (simulator) can be constructed and used in an experimental measurement program, and they are also necessary for a forthcoming theoretical electromagnetic analysis of the rocket with and without a plume which will show the effect of the exhaust plume on the susceptibility of the rocket to electromagnetic radiation.

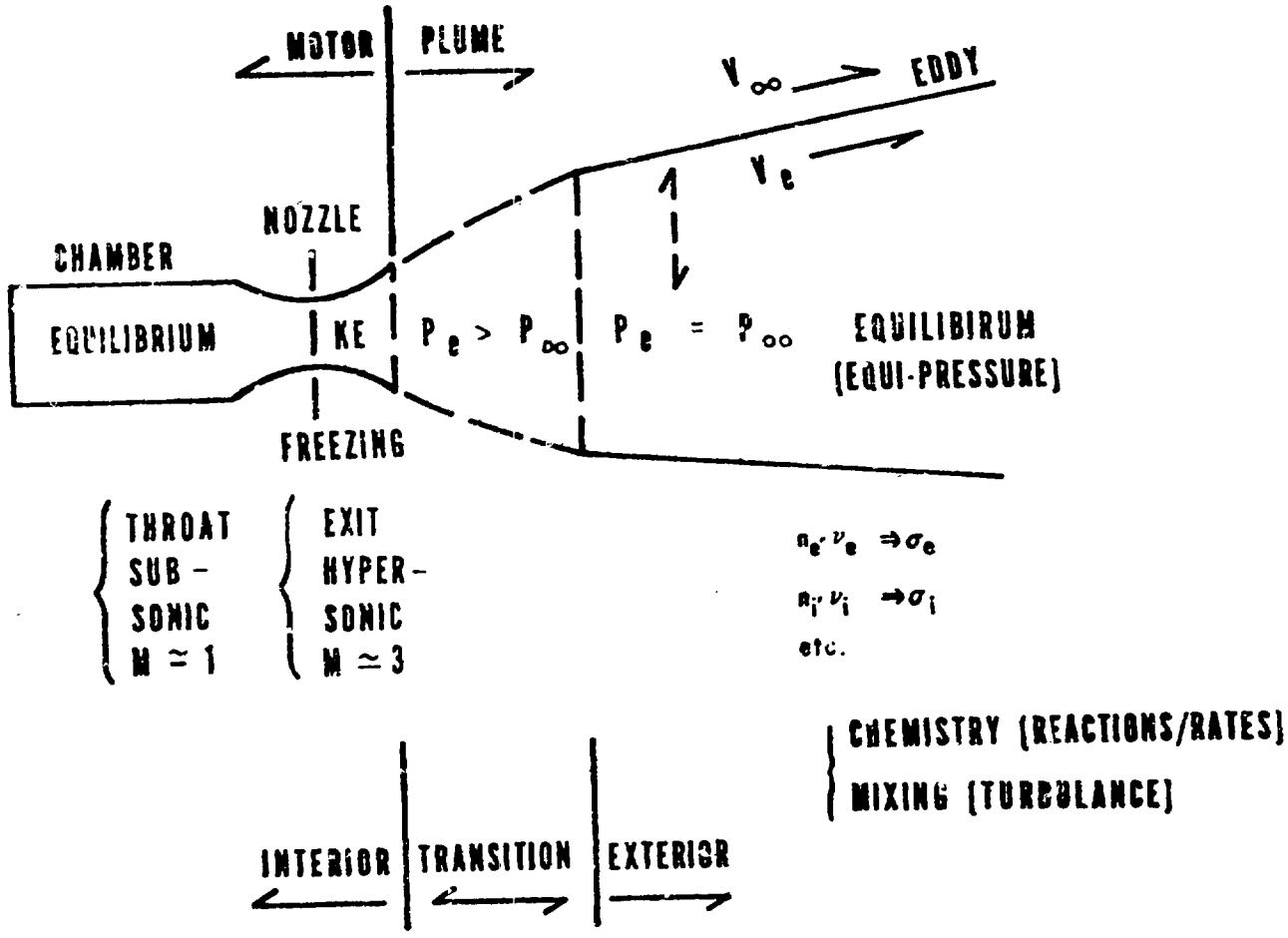


FIGURE 1. Schematic Representation of the Rocket Motor & Exhaust Plume

II. NON-EQUILIBRIUM PLUME PREDICTIONS

In an effort to obtain an accurate numerical solution for the plume electrical parameters, three computer codes have been considered:

i. "Low Altitude Plume Program" (LAPP) which was supplied by MICOM/Huntsville.

ii. "Rocket Exhaust Plume" codes (REP-3 and REP-4) developed at the Imperial College, London and marketed in North America by Combustion, Heat and Momentum, Incorporated (CHAM).

iii. "Naval Weapons Center" code (NWC) at NWC/China Lake, CA and available at Thiokol Chemical Corporation, Brighman City, Utah.

A. Description of the Exhaust Plume Computer Codes

The calculation of the properties of the rocket exhaust can be separated into two parts, viz., an interior problem inside the motor chamber and nozzle and an exterior problem outside the motor in the ambient atmosphere, cf., Figure 1.

The interior problem begins with an equilibrium solution of the thermo-chemical problem in the motor chamber; this is followed by a non-equilibrium expansion through the nozzle to the exit plane of the motor. The solution to the interior problem provides parameters at the exit plane that are used in the plume calculation, i.e., the exterior problem. Typical inputs to the computer programs which solve the exterior problem are the following radial distributions over the infinite plane that is coincident with the exit plane of the nozzle:

i. species concentrations

ii. pressure

iii. temperature

iv. velocity

v. size, number and velocity distributions of the liquid particles (if any are to be considered)

vi. base geometry (if it is to be considered).

Additional information must be specified to solve the external problem, such as the reactions to be considered and their rates, the electron and ion collision cross-sections, ambient pressure, P_∞, and the velocity of the rocket, V_∞.

The LAPP code uses either a Donaldson-Grey or a Ting-Libby eddy viscosity model to calculate a non-equilibrium solution of the thermochemical reaction problem in the plume. No radial pressure variations are included in this code. The NWC code is a simplified version of the LAPP code and only produces an equilibrium solution of the thermochemical reaction problem in the plume. In both of these codes, there is a non-equilibrium expansion region from the exit plane exhaust pressure, P_e, to the ambient atmospheric pressure, P_∞.

The REP-4 code includes the following items which are not considered by the LAPP or NWC codes:

1. lateral momentum equations
2. multi-phase flow
3. slip (drag) of solid or liquid particles
4. kinetic heating

5. radiation

6. base geometry

The REP-3 code is an earlier and less sophisticated version of the REP-4 code; however, the REP-4 code requires additional development before it can be applied directly to the problem in this study.

Because of the high cost of the REP-4 code, a decision was made to purchase a single run of the REP-3 code for comparison with the LAPP and NWC codes.

The final computer runs of these codes for the Redeye missile used the following parameters:

i. the latest JANNAF reactions/rates

ii. the ambient pressure of 0.832 atmospheres corresponding to an altitude of approximately 5000 feet

iii. the velocity of the rocket near zero, which corresponds to a static-firing (velocity ≈ 0)

iv. nozzle radius 0.0484"

v. Lewis Number = 1; Prandtl Number = 1

vi. Jet velocity = 8644 fps; Edge velocity = 10 fps

vii. Jet temperature = 2116°K; Edge temperature = 278°K

Also, at the exit plane, the following mole fractions of the solid propellant constituents were assumed.

	JET	EDGE
CO	2.70×10^{-1}	0
CO_2	5.84×10^{-3}	0
Cℓ	2.42×10^{-3}	0
H	8.53×10^{-3}	0
HCℓ	1.61×10^{-1}	0
H_2	4.22×10^{-1}	0
H_2O	5.18×10^{-2}	0
N_2	7.79×10^{-2}	7.90×10^{-1}
O	1.83×10^{-6}	0
OH	1.25×10^{-4}	0
O_2	1.03×10^{-7}	2.10×10^{-1}
KCℓ	1.12×10^{-5}	0
K	1.37×10^{-7}	0
NaCℓ	1.20×10^{-4}	0
Na	5.31×10^{-6}	0
$Cℓ^-$	3.31×10^{-6}	0
K^+	3.14×10^{-7}	0
Na^+	1.71×10^{-7}	0
e^-	3.46×10^{-8}	0

III. ROCKET EXHAUST PLUMES

The exhaust plume through which the incident electromagnetic wave must travel is in the plasma state, i.e., due to the relatively high exit temperatures of the gases which are propelled out of the rocket motor nozzle ($T \approx 3000°K$), some of the chemical species in the exhaust gases are singely ionized. On the average, the exhaust plume forms a macroscopically neutral ionized gas consisting principally of light and very mobile free electrons and heavy and less mobile free ions of both polarities The electron and positive and negative ion gases are both embedded in a cloud of relatively immobile neutral atoms and molecules. The presence of a static or quasi-static magnetic field, e.g., the earth's magnetic field, will tend to bias the plasma to the extent that the plasma may become anisotropic to the passage of an electromagnetic wave. If the temperature of the plasma is very high, then the plasma can support pressure (acoustic) waves. Also, if the intensity of the incident radiation is very high, then the wave may experience some non-linear effects.

To apply these considerations to the case of an electromagnetic wave passing through the plasma plume of a rocket, it is noted that the wave, in principle, interacts with all three components of the plasma, viz., the free electrons, the free ions (both polarities), and the neutral particles. However, the interaction of the wave with the neutral particles is so small due to their low mobilities in comparison to the interactions between the wave and the charged particles that it can be neglected. Normally, since the ions are much more massive than the electrons (typically, $m_i \approx 50{,}000\ m_e$), the velocity imparted to the

ions by the wave is usually negligibly small compared to the velocity given to the electrons. Usually, the resulting ion convection current in the plasma is much smaller than the electron convection current. However, in a rocket plume, the ion collision frequency is much less than the electron collision frequency (typically, $\nu_i \approx 5 \times 10^{-3} \nu_e$), and the ion species number density (due to simple dissociation) is much larger than the electron number density (typically, $n_i \approx 1{,}000\ n_e$). Collectively, then, the reduced ion collision frequency and the enhanced ion number density can compensate for the reduced mobility of the ions and may result in an ion conductivity which is greater than the electron conductivity in certain regions of the wake. Thus, a two fluid model, viz., an electron fluid and a combined negative and positive ion fluid, is needed to accurately describe the plasma plume.

The intensity of the electromagnetic radiation incident on the plasma plume in a typical in-flight environment is not large enough to introduce non-linear effects into the wave propagation, but it is large enough to dominate the static magnetic field bias of the earth's weak magnetic field. Therefore, for simplicity, the plume is modeled as a linear and isotropic plasma. Also, the temperature of the exhaust gases are not high enough to support any significant pressure waves; therefore, for simplicity, the plume is modeled as a "cold" plasma.

A. Plasma Model

With the above assumptions, the equation of motion for the velocity $\underline{v}$ of an isolated electron or ion due to interactions resulting from a Lorentz force $\underline{F}_{e/m}$, a temporal change in moment $\underline{P}$, a spacial change in stress $\underline{S}$, and a biasing force $\underline{F}_0$, is given in the "time" domain by

$$m\dot{\underline{v}} = \underline{F}_{e/m} - \dot{\underline{P}} - \underline{\nabla}\cdot\underline{\underline{S}} + \underline{F}_0$$

where:

$$\dot{\underline{v}} = \frac{d}{dt}\underline{v} = \frac{\partial}{\partial t}\underline{v} + \underline{v}\cdot\underline{\nabla}\underline{v} \approx \frac{\partial}{\partial t}\underline{v} \qquad (\underline{v}\cdot\underline{\nabla}\underline{v} \approx 0)$$

$$\underline{F}_{e/m} = q(\underline{E} + \underline{v}\Lambda\underline{B}) \approx q\underline{E} \qquad (B << E)$$

$$\dot{\underline{P}} = (m\underline{v})\nu$$

$$\underline{\underline{S}} \approx 0 \qquad (T \approx 0)$$

$$\underline{F}_0 = q\underline{v}\Lambda\underline{B}_o \approx 0 \qquad (B_o << E)$$

where ν is the measured collision frequency and q is the charge carried by the species. In the "frequency" domain, with $e^{-i\omega t}$ time variation, the equation of motion reduces to

$$-i\omega m\underline{v} = q\underline{E} - m\underline{v}\nu$$

The solution of the equation of motion for the velocity $\underline{v}$ is simply

$$\underline{v} = \frac{q\underline{E}}{m(\nu - i\omega)}$$

If the convection current density $\underline{J}$ is defined by

$$\underline{J} = nq\underline{v}$$

where n is the number density of the species considered, then a complex conductivity σ_c, or, equivalently, a real and imaginary conductivity σ_r and σ_i, can be defined as

$$\underline{J} = \sigma_c \underline{E} = (\sigma_r + i\,\sigma_i)\underline{E}$$

where

$$\sigma_c = \epsilon_o \omega_p^2 \frac{\nu + i\omega}{\nu^2 + \omega^2}$$

and

$$\sigma_r = \epsilon_o \frac{\nu \omega_p^2}{\nu^2 + \omega^2}$$

$$\sigma_i = \epsilon_o \frac{\omega_p^2 \omega}{\nu^2 + \omega^2}$$

where the plasma frequency ω_p is defined by

$$\omega_p = \sqrt{\frac{nq^2}{m\epsilon_o}}$$

where m is the mass of the species considered.

B. Constitutive Parameters

The above equations thus describe the plasma as a non-polarized conducting material with a permeability μ_o, permittivity ϵ_o, and a complex conductivity σ_c. To avoid a description of the plasma with a complex conductivity, the complex convection current is modeled with a real conduction current plus a polarization current. If an equivalent lossy dielectric is described by the real conductivity σ and the electric susceptibility χ_e, then

$$\sigma = \sigma_r$$

$$\chi_e = -\sigma_i / \omega \epsilon_o$$

Therefore,

$$\mu = \mu_o$$

$$\epsilon = \epsilon_o(1+\chi_e) = \epsilon_o\left(1 - \frac{\omega_p^2}{\omega^2+\nu^2}\right)$$

$$\sigma = \sigma_r = \epsilon_o \frac{\nu\omega_p^2}{\omega^2+\nu^2}$$

Thus, it is also possible to describe the plasma as a polarized conducting material with a permeability μ_0, permittivity $\epsilon \neq \epsilon_o$, and a real conductivity σ. Note that ϵ is actually less than ϵ_o.

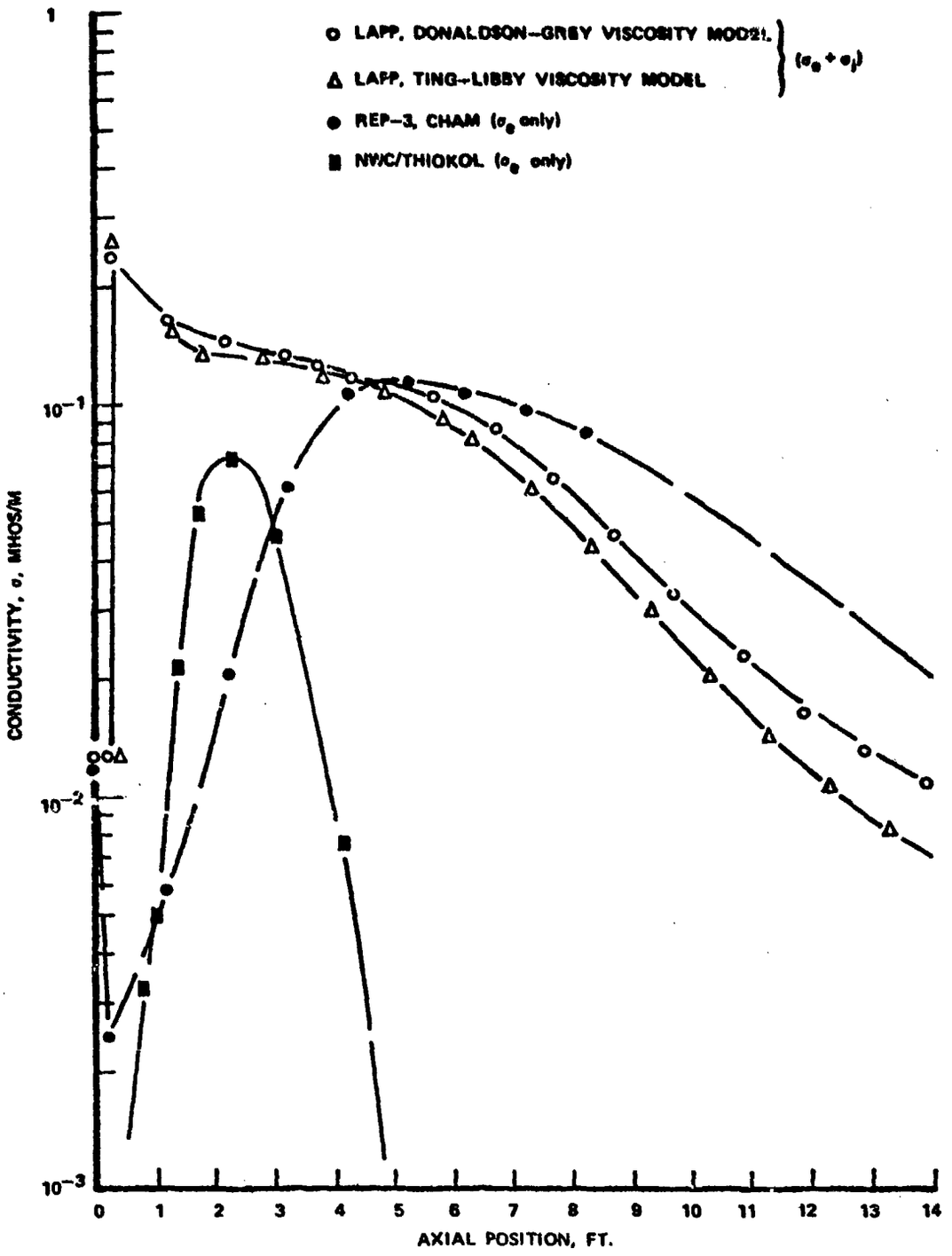


FIGURE 2. Comparison of Conductivities Predicted by Computer Codes

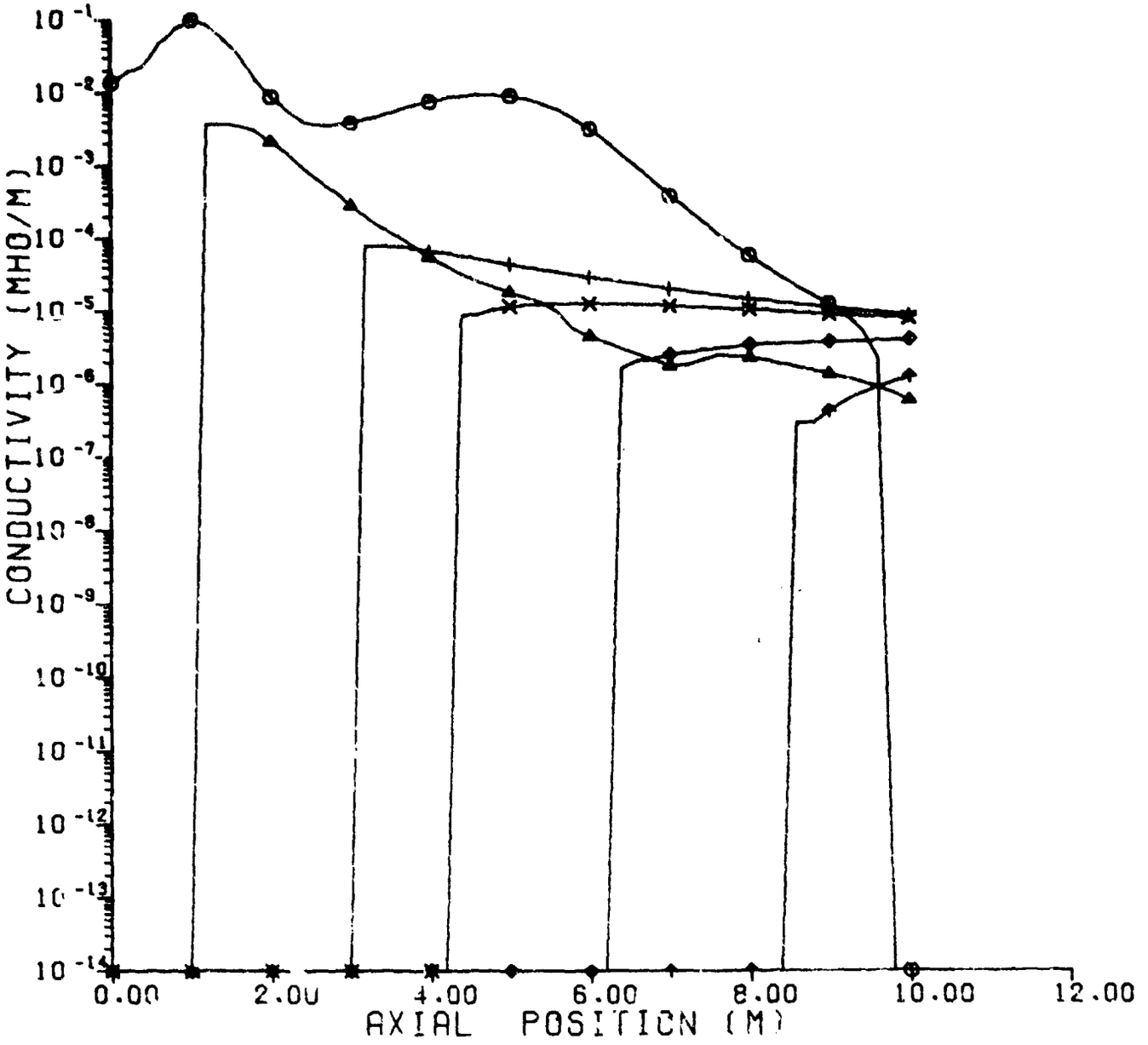
IV. PREDICTED CONSTITUTIVE PARAMETERS

The predicted maximum conductivity profiles from the LAPP (both viscosity models), REP-3, and NWC computer codes are plotted in Figure 2. Appendix B and C contain the complete axial and radial profiles of the conductivity as calculated from the LAPP computer codes from which the graphs in Figure 2 were compiled.

All of these codes gave values of the permittivity of the plume at UFH frequencies essentially the same as that of free space, ε_o. In Figure 2, the maximum value of the conductivity on each transverse cross-section of the plume is plotted as a function of axial position along the plume for each of the codes. A comparison of these data shows that the shapes of these curves are quite different; however, the maximum values of the conductivity predicted by the codes are nearly the same.

For the construction of the simulated plume, the highest predicted values of the conductivity should be used, since these will produce the maximum effect on the susceptibility of the rocket. This effect has been verified by the theoretical thin-wire electromagnetic model. The conductivities from the LAPP code are generally higher than those of the REP-3 code, particularly in the transition region of the plume which is close to the rocket. Therefore, the decision was made to use the conductivities predicted by the LAPP code with the Donaldson-Grey eddy-viscosity model for constructing the simulated plume.

A brief description of the LAPP code is contained in Appendix A.



RADIAL POSITION (M)

⊙	0.000
△	0.500
+	1.000
×	1.500
◇	2.000
✦	2.500

ROCKET • REDEYE
POSITION • 5000(FT)/10(FT/S)
PRESSURE • 0.832 (ATMOSPHERES)

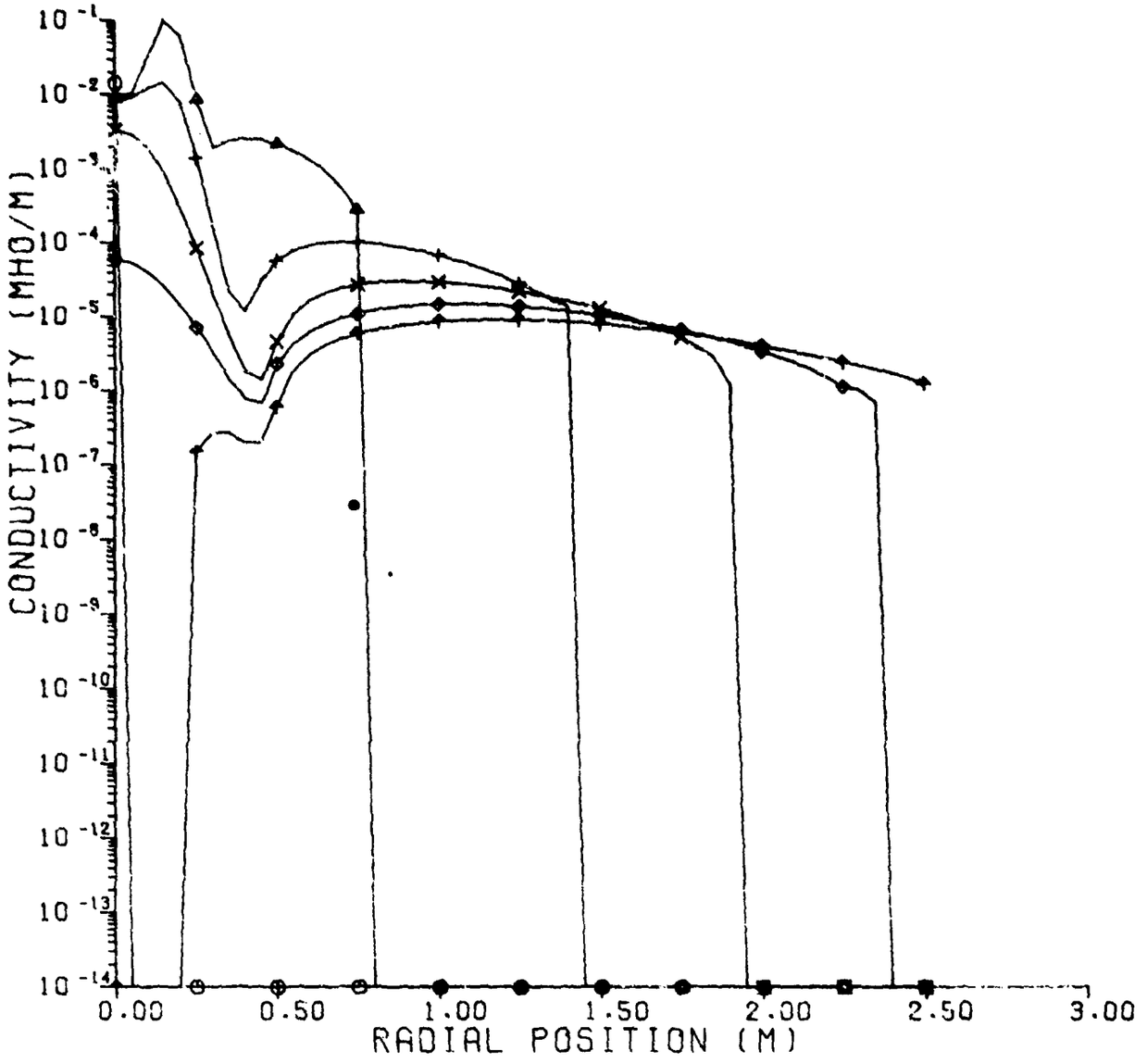
FIGURE 3a. Conductivity vs. Axial Position With Radial Position as a Parameter.

V. PREDICTED CONDUCTIVITY PROFILES

The output of the LAPP computer code, as discussed in Appendix A, contains the electron density and electron-neutral collision frequency at all radial points for each axial print-out station. The electrical conductivity of the exhaust plume has been calculated at these same points to determine the complete axial and radial conductivity profile in the wake of the rocket.

A sample of the output for the Redeye missile is shown in Appendix B. Each succeeding page contains printouts at axial stations corresponding to the print increment. Note that the data is not equally spaced in either the axial or the radial directions. Appendix C contains the same data as in Appendix B; but for convenience, the data is presented at equidistance spaces in both the axial and radial directions.

Graphs of the conductivity profiles are shown in Figure 3 for the equilized data contained in Appendix C. In Figure 3a, the conductivity is plotted as a function of axial distance behind the rocket nozzle at several radial positions; in Figure 3b, the conductivity is plotted as a function of radial distance from the center line of the rocket motor at several axial positions. In Figure 4, the maximum value of the conductivity at each cross-section is plotted as a function of axial position. Figure 5 contains a 2-dimensional equi-contour plot of this same information. In Figure 6a, a 3-dimensional relief map is shown of the conductivity profile. Figure 6b is Figure 6a rotated by 180 degrees. For clarity, the radial scale is increased by a factor of 4. Notice that in the above plots, it is the log of the conductivity that is used.



AXIAL	POSITION (M)
⊙	0.000
△	2.000
+	4.000
×	6.000
◇	8.000
⊕	10.000

ROCKET • REDEYE
POSITION • 5000(FT)/10(FT/S)
PRESSURE • 0.632 (ATMOSPHERES)

FIGURE 3b. Conductivity vs. Radial Position With Axial Position as a Parameter

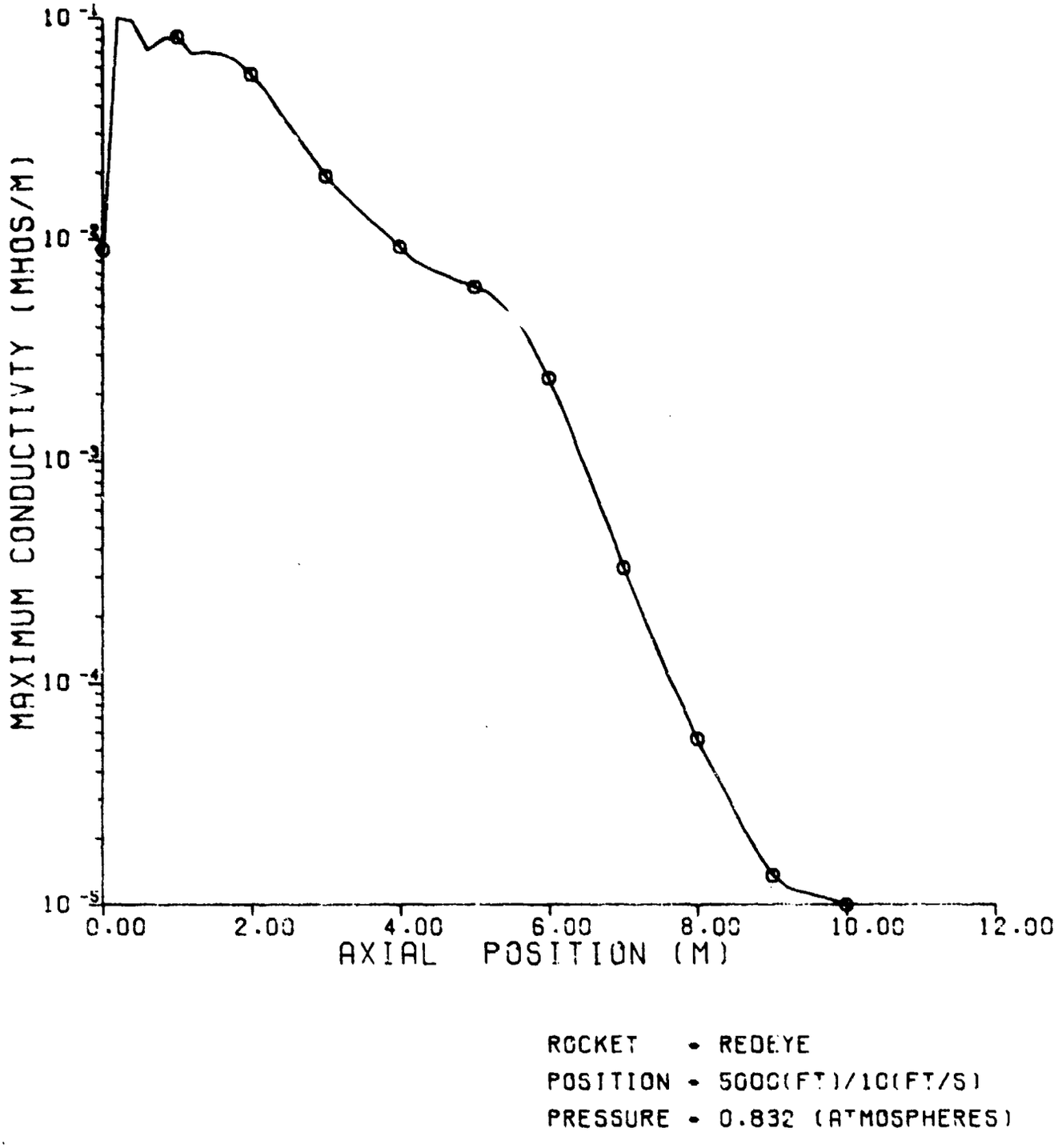


FIGURE 4. Maximum Values of Conductivity.

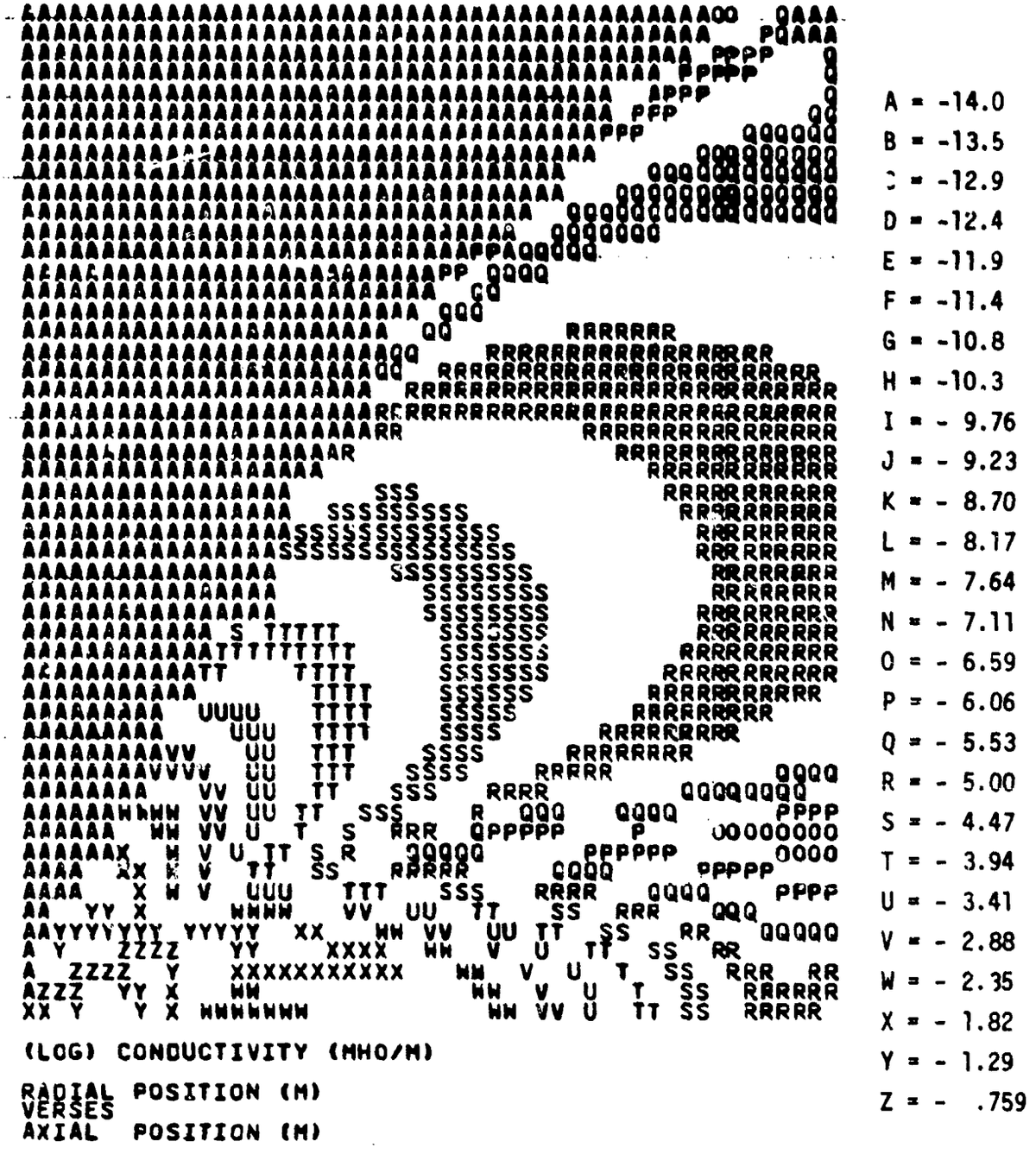
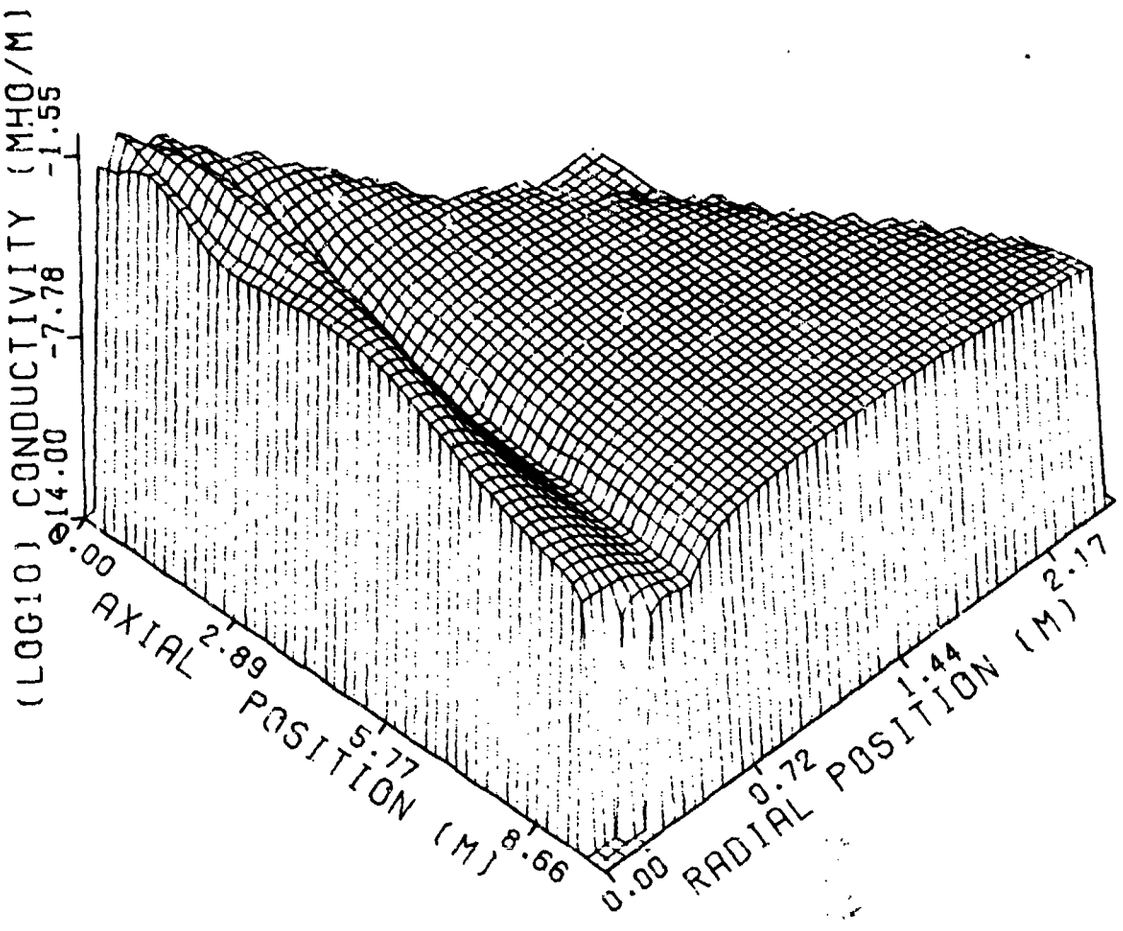
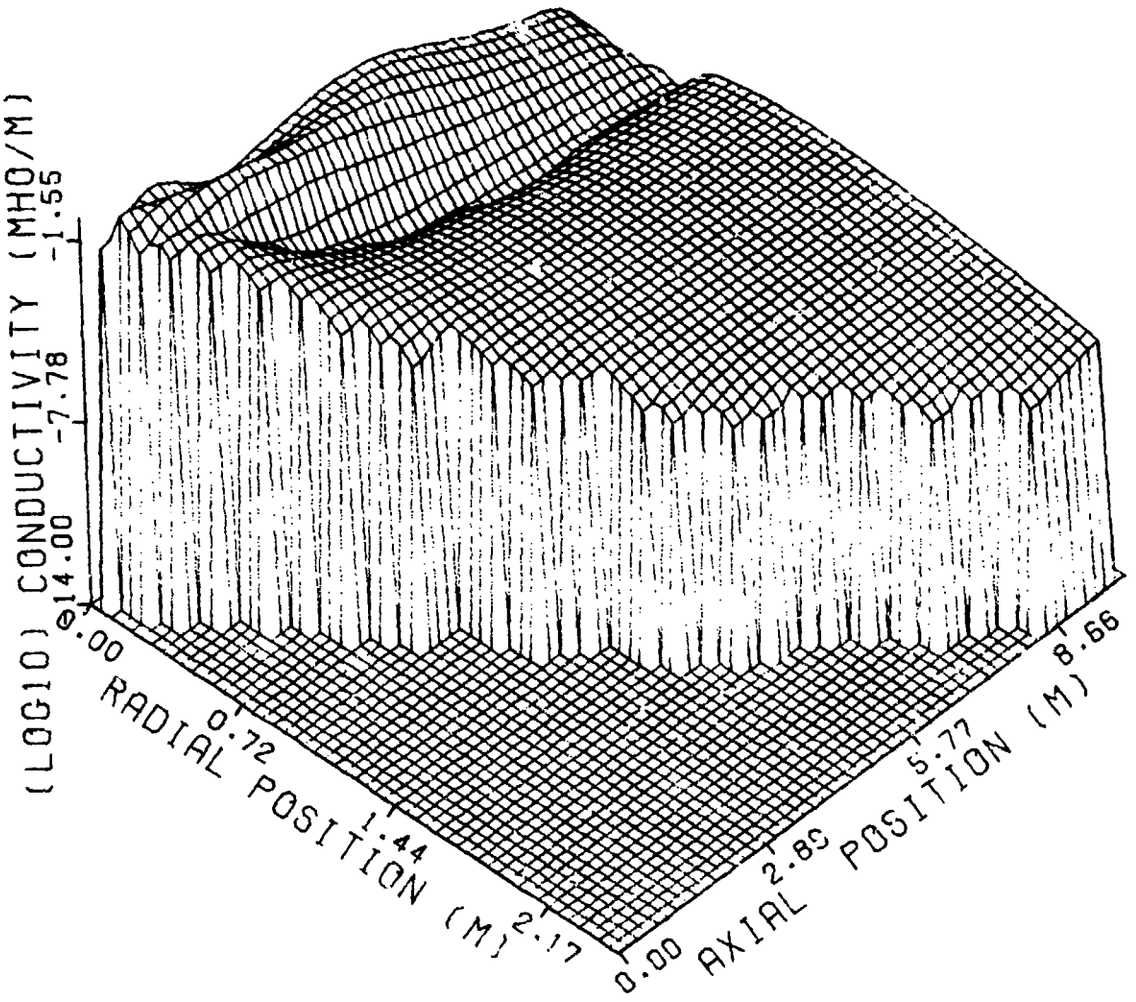


Figure 5. Equicontour Plot of Conductivity



ROCKET - REDEYE
POSITION - 5000(FT)/10(FT/S)
PRESSURE - 0.832 (ATMOSPHERES)

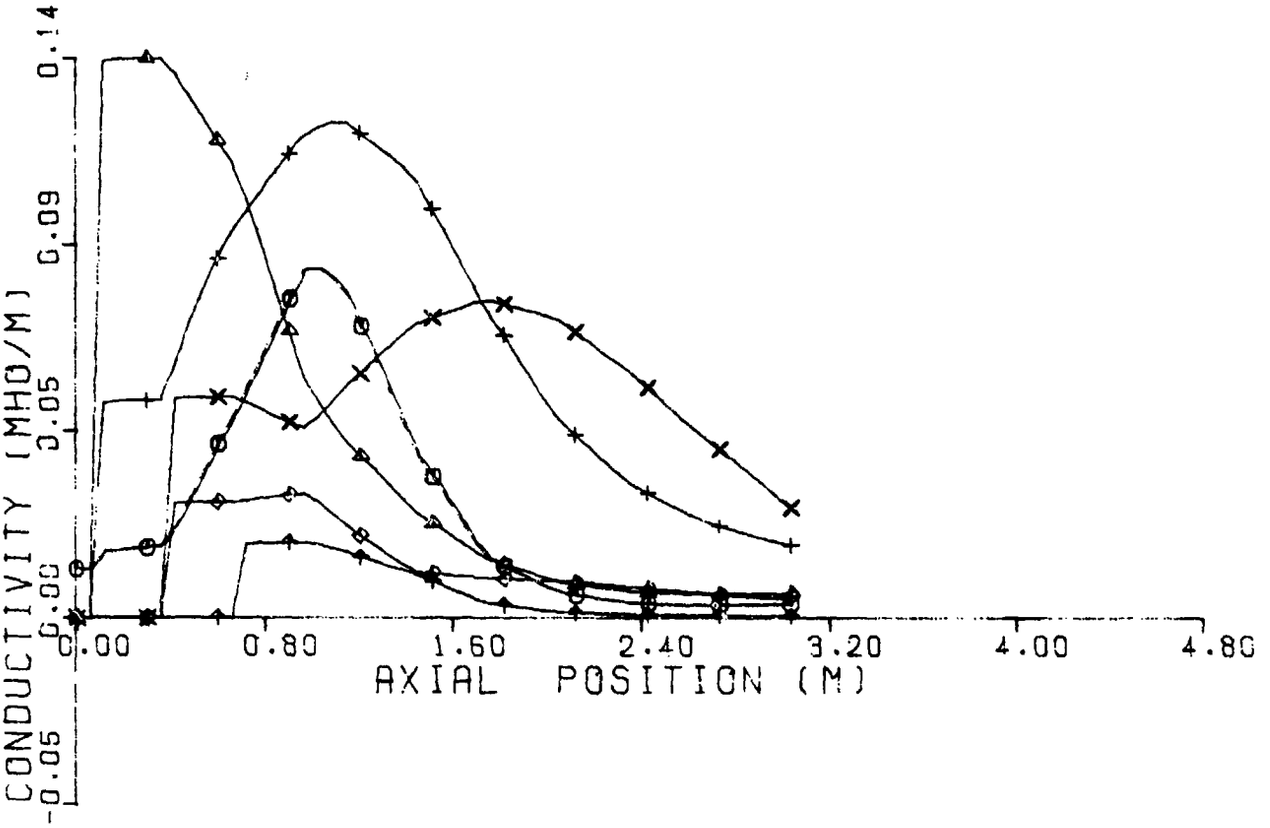
FIGURE 6a. Relief Map of Conductivity



ROCKET - REDEYE
POSITION - 5000(FT)/10(FT/S)
PRESSURE - 0.832 (ATMOSPHERES)

FIGURE 6b. Relief Map of Conductivity

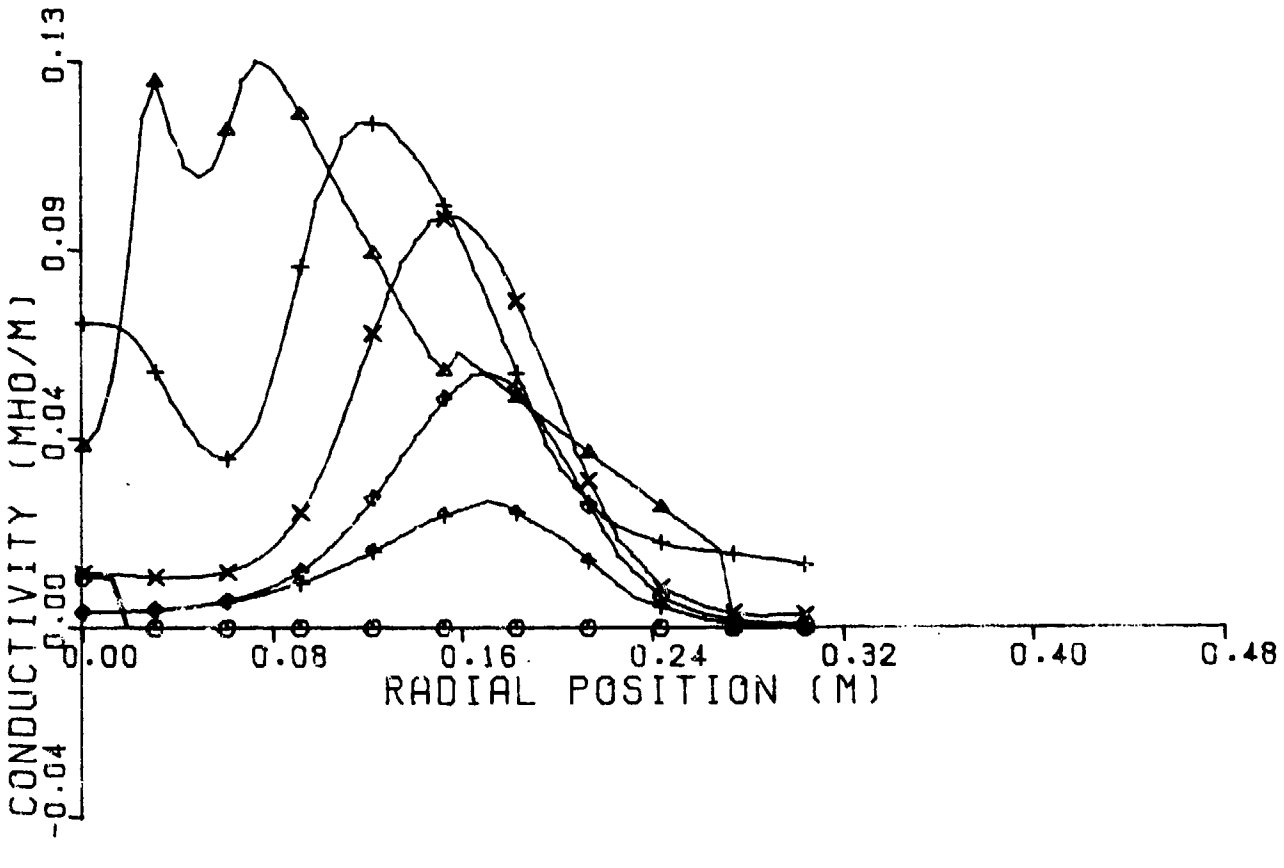
Since the thin wire moment method codes predict that regions of the plume with values of conductivity less than approximately $1x10^{-2}$ mhos/meter are insignificant, the first 10 feet of the plume out to approximately 1 foot in radius contains the significant part of the plume. An enlargement of the conductivity of this portion of the plume is shown in Figure 7. Again, in Figure 7a, the conductivity is plotted as a function of axial distance behind the rocket nozzle at several radial positions; and, in Figure 7b, the conductivity is plotted as a function of radial distance from the center line of the rocket motor at several axial positions. In Figure 8, the maximum value of the conductivity at each cross-section is plotted as a function of axial position. Also, in Figure 9a, a 3-dimensional relief map of the conductivity is shown. Figure 9b is Figure 9a rotated by 180 degrees. Again, for clarity, the radial scale is increased by a factor of 6. Notice that the expanded plots are linear in the conductivity.



RADIAL POSITION (M)	
○	0.000
△	0.061
+	0.122
×	0.183
◇	0.244
✳	0.305

ROCKET - REDEYE
POSITION - 5000(FT) / 10(FT/SEC)
PRESSURE - 0.832 (ATMOSPHERES)

FIGURE 7a. Conductivity vs. Axial Postion With Radial Position as a Parameter



AXIAL	POSITION (M)
○	0.000
△	0.610
+	1.219
×	1.829
◇	2.438
✦	3.048

ROCKET - REDEYE
POSITION - 5000(FT) / 10(FT/SEC)
PRESSURE - 0.832 (ATMOSPHERES)

FIGURE 7b. Conductivity vs. Radial Position With Axial Position as a Parameter

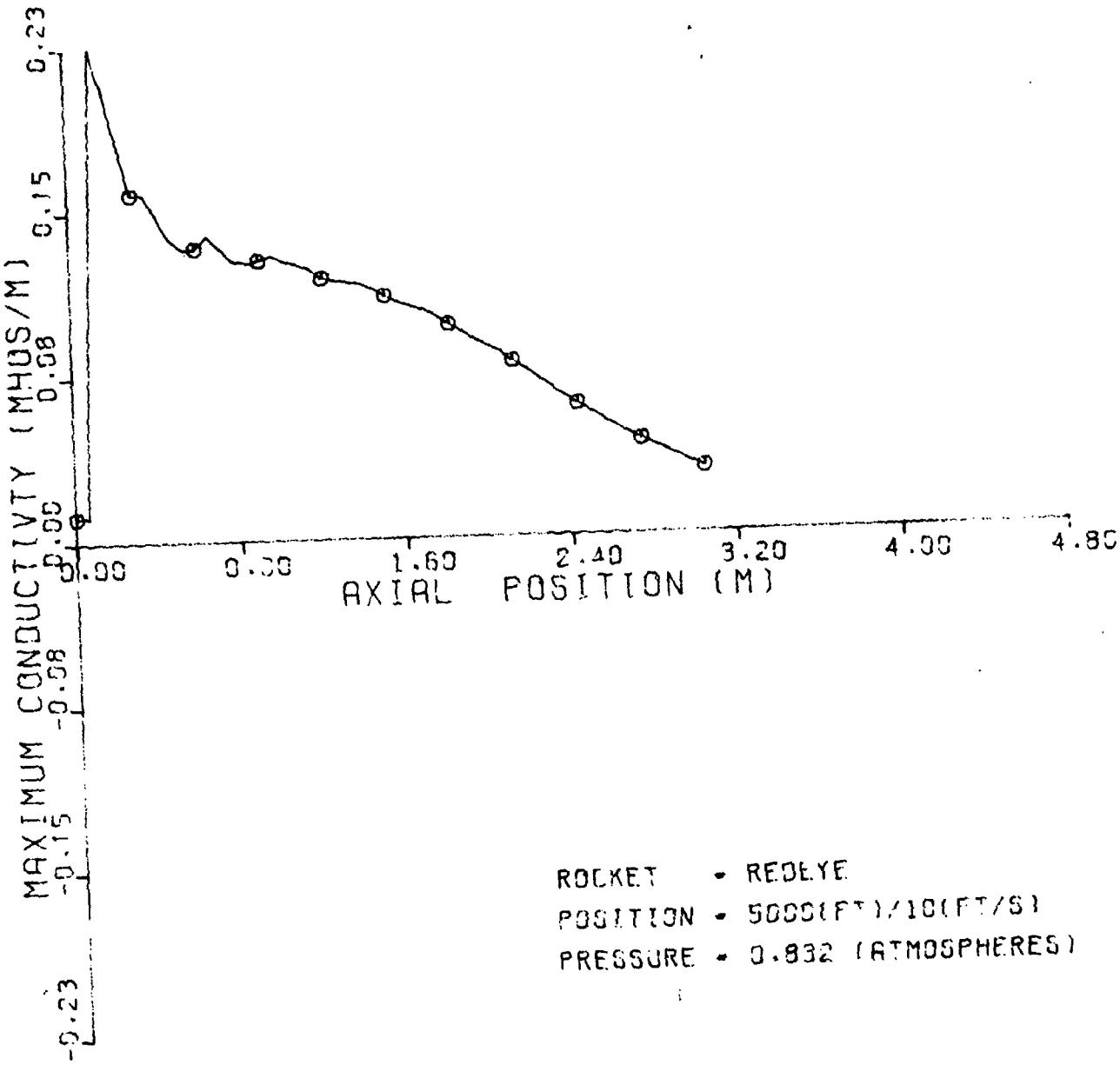
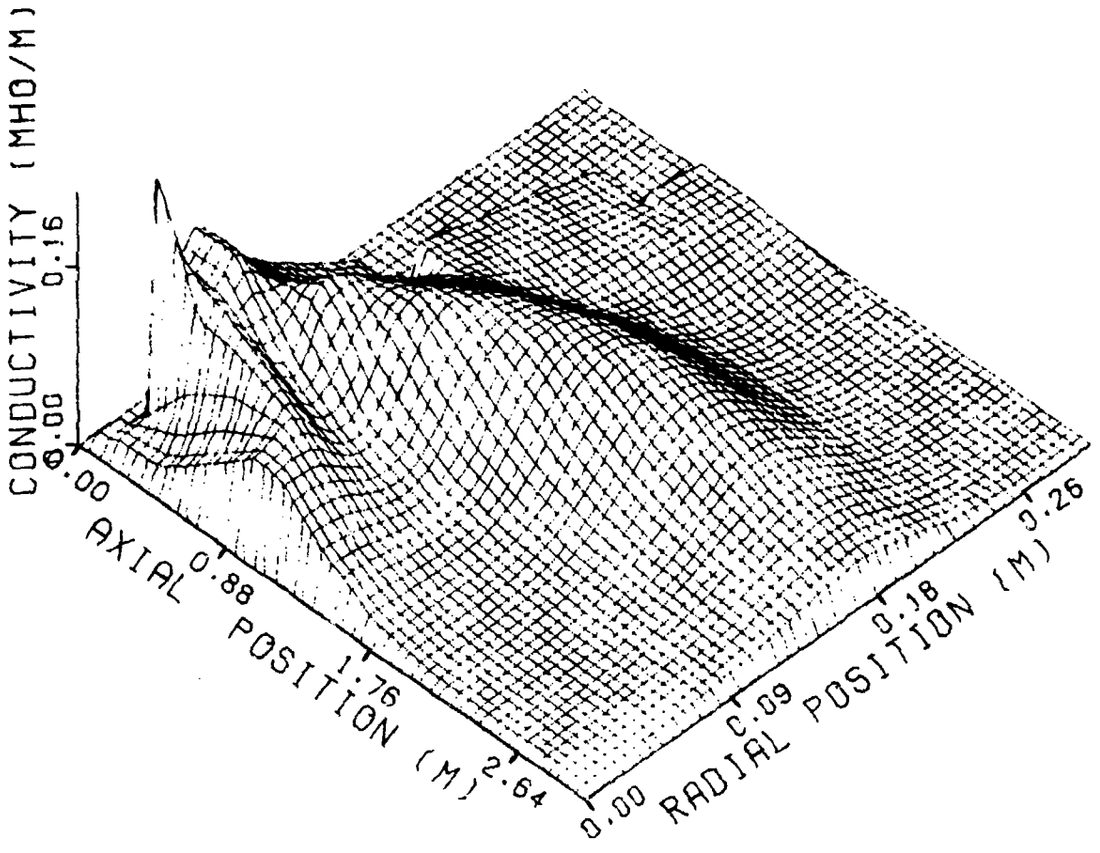
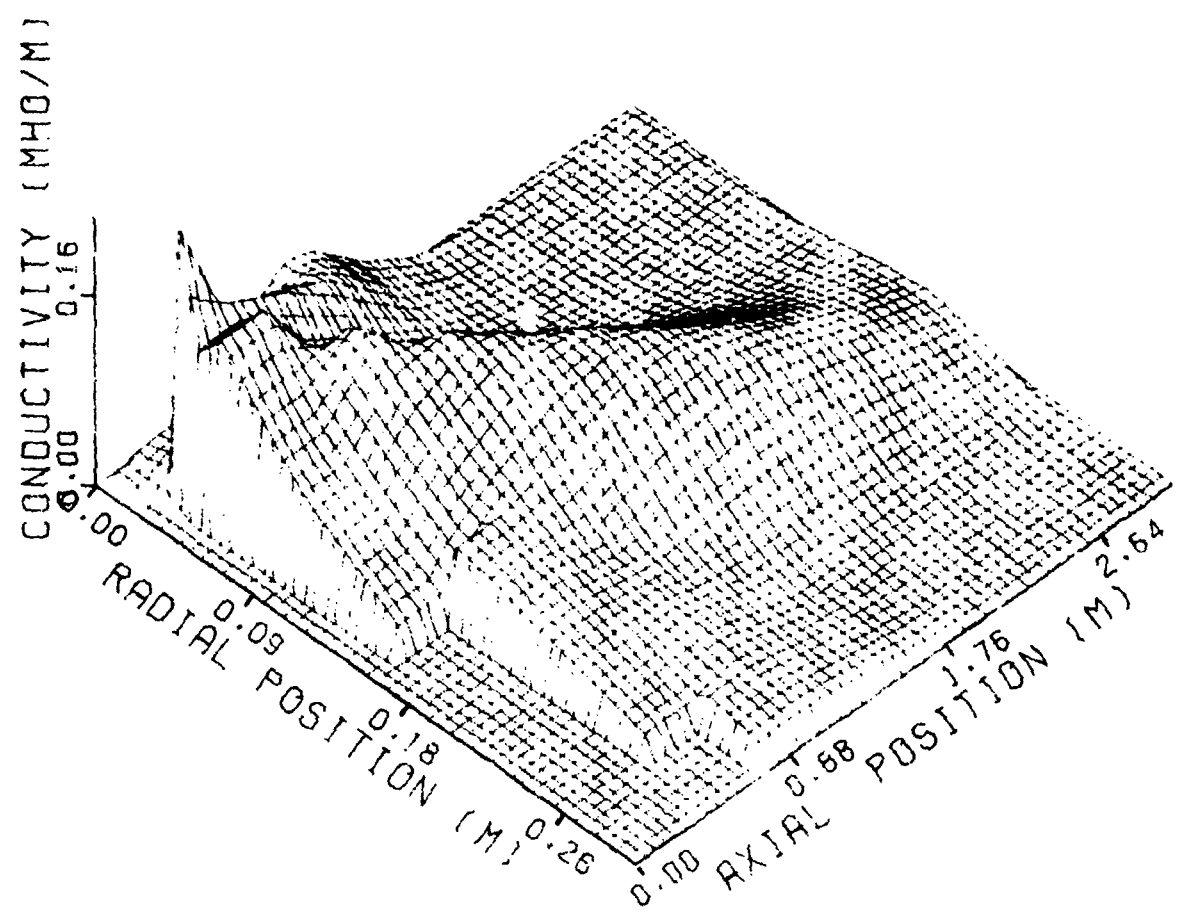


FIGURE 8. Maximum Values of Conductivity.



ROCKET - REDEYE
POSITION - 5000(FT) / 10(FT/SEC)
PRESSURE - 0.832 (ATMOSPHERES)

FIGURE 9a. Relief Map of Conductivity



ROCKET - REDEYE
POSITION - 5000(FT) / 10(FT/SEC)
PRESSURE - 0.832 (ATMOSPHERES)

FIGURE 9b. Relief Map of Conductivity

REFERENCES

[1] Mikatarian, Kau, and Pergament, "A Fast Computer Program for Non-Equilibrium Rocket Plume Predictions," AFRPL-TR-72-94, Air Force Rocket Propulsion Laboratory, Edwards Air Force Base.

[2] JANNAF Thermochemical Tables (Dow Chemical Co., Midland, continuously updated).

APPENDIX A

The LAPP[1] computer program for predicting nonequilibrium, low altitude rocket plume properties is described in this Appendix.

The analytical model assumes parallel turbulent (or laminar) mixing between concentric chemically reacting streams. The equations for free shear layer mixing with nonequilibrium chemistry are solved via a mixed implicit/explicit finite difference scheme which efficiently predicts flow properties and composition, even when many chemical reactions are near equilibrium.

A1. INTRODUCTION

The LAPP computer program can accurately determine electromagnetic wave/plume interactions and can be used to predict the electrical properties of a typical turbulent after-burning rocket exhaust plume. The program uses a gas dynamic model (parallel mixing between two concentric streams), and will account for nonequilibrium chemistry effects). Therefore, finite-rate chemical kinetics are incorporated into the rocket plume calculations to accurately predict plume temperatures, electrical properties, etc.

Conceptually, the numerical solution of the equations describing axisymmetric mixing with nonequilibrium chemistry presents few difficulties, except in non-equilibrium flows where one or more of the chemical reactions is at or near-equilibrium, a situation typical of relatively low altitude (< 70 kft) afterburning plumes.

Therefore, in the LAPP computer program a implicit/explicit numerical technique is used to solve the partial differential equations (in finite-difference form) describing turbulent (or laminar) shear flows with non-equilibrium chemistry, i.e., implicit differences are used in the solution of the species conservation equations and explicit differences are used for the momentum and energy equations. This mixed implicit/explicit scheme eliminates the instability problems which might otherwise arise.

The gas dynamic model assumes parallel mixing between the rocket exhaust products and surrounding air (either quiescent or moving), and allows for non-uniform initial conditions at the nozzle exit plane. Lewis and Prandtl numbers are assumed to be constant, and pressure is

allowed to vary parallel to the plume axis. Turbulent transport is described via an appropriate eddy viscosity model and Sutherland's law is used to calculate the viscosity for laminar flow. The program will allow any chemical reaction mechanism (and associated rate coefficients) to be used as long as thermodynamic data are available for all species. Thermodynamic data, taken directly from the JANNAF Tables,[2] are input in tabular form.

This appendix presents governing partial differential equations, their finite difference formulations, the various eddy viscosity models which may be input to the program, and a description of the input data. The computer output gives detailed axial and radial distributions of velocity, temperature, density and species mole fractions. These results are used to calculate electron and ion densities and collision frequencies with neutral particles, which, in turn, are used to determine the electrical constitutive parameters.

AII. GOVERNING EQUATIONS

A. Conservation Equations and Boundary Conditions

The following equations describe the free-shear layer turbulent or laminar mixing of co-flowing axisymmetric streams undergoing chemical reactions. For turbulent flow all properties are interpreted to be the mean (time-averaged) values.

Global Continuity

$$\frac{\partial}{\partial x}(\rho u) + \frac{1}{r}\frac{\partial}{\partial r}(\rho v r) = 0 \tag{A1}$$

Conservation of Species

$$\rho u \frac{\partial F_i}{\partial x} + \rho v \frac{\partial F_i}{\partial r} = \frac{1}{r}\frac{\partial}{\partial r}\left(\frac{Le}{Pr}\mu r \frac{\partial F_i}{\partial r}\right) + \dot{w}_i \tag{A2}$$

Conservation of Momentum

$$\rho u \frac{\partial u}{\partial x} + \rho v \frac{\partial u}{\partial r} = -\frac{dp}{dx} + \frac{1}{r}\frac{\partial}{\partial r}(\mu r \frac{\partial u}{\partial r}) \tag{A3}$$

Conservation of Energy

$$\rho c_p\left[u \frac{\partial T}{\partial x} + v \frac{\partial T}{\partial r}\right] = u \frac{dp}{dx} + \mu\left(\frac{\partial u}{\partial r}\right)^2 + \frac{1}{r}\frac{\partial}{\partial r}\left[\frac{c_p}{Pr}\mu r \frac{\partial T}{\partial r}\right] +$$

$$\mu \frac{Le}{Pr}\frac{\partial T}{\partial r}\sum_i c_{F_j}\frac{\partial F_i}{\partial r} - \sum_i \dot{w}_i h_i \tag{A4}$$

State

$$\rho = \frac{pW}{RT} \tag{A5}$$

where:

c_p = specific heat of mixture

c_{p_i} = specific heat of ith species

F_i = defined as $X_i/W(= Y_i/W_i)$

h_i = enthalpy of ith species

Le = Lewis number (laminar or turbulent)

p = static pressure

Pr = Prandtl number (laminar or turbulent)

r = coordinate normal to jet centerline

R = universal gas constant

T = static temperature

u = x component of velocity

v = r component of velocity

$\dot{w}_i$ = molar rate of production of ith species

W = molecular weight of mixture

W_i = molecular weight of ith species

x = coordinate parallel to jet centerline

X_i = mole fraction of ith species

Y_i = mass fraction of ith species

μ = viscosity (or eddy viscosity for turbulent flow)

The conservation equations are solved subject to initial and boundary conditions at the nozzle of the rocket and at the free-stream boundary:

$$x = 0: \quad u = u(r),\ F_i = F_i(r),\ T = T(r)$$

$$r = 0: \quad \frac{\partial u}{\partial r} = \frac{\partial T}{\partial r} = \frac{\partial F_i}{\partial r} = 0 \tag{A6}$$

$$r \to \infty: \quad u \to u_e,\ F_i \to (F_i)_e,\ T \to T_e$$

Pressure is allowed to vary in the axial direction according to,

$$p = c_o + c_1 x + c_2 x^2 + c_3 x^3 \tag{A7}$$

where c_o, c_1, c_2 and c_3 are input coefficients.

B. Transformation to Stream Function Coordinates

It is convenient to transform the equations into a streamline coordinate system and utilize the stream function, Ψ, as the radial coordinate. The transformation from cartesian (x,r) coordinates to streamline (x,Ψ) coordinates (which automatically satisfies global continuity) is defined by:

$$\Psi \frac{\partial \Psi}{\partial r} = \rho u r \tag{A8a}$$

$$\Psi \frac{\partial \Psi}{\partial x} = -\rho v r \tag{A8b}$$

The governing equations, then take the form:

Species

$$\frac{\partial F_i}{\partial x} = \frac{1}{\Psi} \frac{\partial}{\partial \Psi}\left[\left(\frac{Le}{Pr}\right) \frac{\mu \rho u r^2}{\Psi} \frac{\partial F_i}{\partial \psi}\right] + \frac{\dot{w}_i}{u\rho} \tag{A9a}$$

and, on the axis of symmetry, $r = \Psi = 0$

$$\frac{\partial F_i}{\partial x} = 2\mu\left(\frac{Le}{Pr}\right) \frac{\partial^2 F_i}{\partial \psi^2} + \frac{\dot{w}_i}{u\rho} \tag{A9b}$$

Momentum

$$\frac{\partial u}{\partial x} = -\frac{1}{\rho u}\frac{dp}{dx} + \frac{1}{\Psi}\frac{\partial}{\partial \Psi}\left[\frac{\mu \rho u r^2}{\Psi}\frac{\partial u}{\partial \Psi}\right] \tag{A10a}$$

and, on the axis of symmetry, $r = \Psi = 0$

$$\frac{\partial u}{\partial x} = -\frac{1}{\rho u}\frac{dp}{dx} + 2\mu\frac{\partial^2 u}{\partial \Psi^2} \tag{A10b}$$

Energy

$$c_p\frac{\partial T}{\partial x} = \frac{1}{\rho}\frac{dp}{dx} - \frac{1}{\rho u}\sum_i h_i \dot{w}_i + \frac{1}{\Psi}\frac{\partial}{\partial \Psi}\left[\frac{c_p}{Pr}\frac{\mu \rho u r^2}{\Psi}\frac{\partial T}{\partial \Psi}\right] +$$

$$\frac{\mu \rho u r^2}{\Psi^2}\left[\left(\frac{\partial u}{\partial \Psi}\right)^2 + \frac{Le}{Pr}\frac{\partial T}{\partial \Psi}\sum_i c_{p_i}\frac{\partial F_i}{\partial \Psi}\right] \tag{A11a}$$

and, on the axis of symmetry, $r = \Psi = 0$

$$c_p\frac{\partial T}{\partial x} = \frac{1}{\rho}\frac{dp}{dx} + 2\mu\left(\frac{c_p}{Pr}\right)\frac{\partial^2 T}{\partial \Psi^2} - \frac{1}{\rho u}\sum_i h_i \dot{w}_i \tag{A11b}$$

C. Finite-Difference Formulation

The governing set of parabolic partial differential equations, are first rewritten in finite difference form and then solved using a forward marching technique. The chemistry terms, $\dot{w}_i$, in the species continuity equations are evaluated via implicit-differences; the diffusion terms in the species continuity equations and the complete energy and momentum equations are evaluated via explicit-differences.

AIII. SOLUTION OF FINITE DIFFERENCE EQUATIONS

A. Integration Step Size

Should the computed species mole fraction at any radial point become negative (typically, because the chemistry is "fast," and one or more reactions are near-equilibrium), the step size is repeatedly halved until either the species mole fraction becomes positive or the step size becomes less than some minimum step size. In the latter case, the program terminates.

The number of grid points cannot be allowed to expand without bounds because of the limited storage capacity of the computer. Therefore, the number of points is halved either when the mesh increases to twice its original size or the number of points exceeds 26. The computer prints all output at the station at which halving occurs.

AIV. CHEMICAL REACTION RATE EQUATIONS

A maximum of 25 possible reactions are included in the programs with rate coefficients k_r expressed in the form*

$$k_r = \text{A}T^{-N}\exp(B/RT)$$

For the Redeye missile the reactions listed the following table are considered.

In the reactions, M is an arbitrary third body. In this program, all species are assumed to have equal third body efficiencies.

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* Rate coefficient data for typical rocket plume reactions may be found in the JANNAF Thermochemical Tables.[2]

REACTIONS	A	N	B
$KCl + H = K + HCl$	7.0×10^{-11}	0	-1000
$O + O + M = O_2 + M$	3.8×10^{-30}	1	- 340
$H + H + M = H_2 + M$	2.8×10^{-30}	1	0
$O + H + M = OH + M$	2.0×10^{-32}	0	0
$H + OH + M = H_2O + M$	6.1×10^{-26}	2	0
$CO + O + M = CO_2 + M$	2.0×10^{-33}	0	-4000
$OH + OH = H_2O + O$	1.0×10^{-11}	-0	-1100
$OH + H_2 = H_2O + H$	1.0×10^{-17}	-2	-2900
$OH + H = H_2 + O$	1.4×10^{-14}	-1	-7000
$OH + O_2 = H + O2$	4.0×10^{-11}	0	0
$CO + OH = CO_2 + H$	1.1×10^{-19}	-2	1600
$Cl + H_2 = HCl + H$	8.0×10^{-11}	0	-5260
$HCl + OH = H_2O + Cl$	1.0×10^{-14}	-1	-1000
$O + HCl = OH + Cl$	2.0×10^{-12}	0	-4500
$H + Cl + M = HCl + M$	3.0×10^{-30}	1	0
$K + Cl + M = KCl + M$	1.0×10^{-29}	1	0
$NaCl + H = Na + HCl$	8.0×10^{-11}	0	- 800
$Na + Cl + M = NaCl + M$	1.0×10^{-29}	1	0
$K^+ + e^- + M = K + M$	2.0×10^{-22}	1.5	0
$K^+ + Cl^- = K + Cl$	4.0×10^{-11}	0	0
$Cl + e^- + M = Cl^- + M$	6.0×10^{-29}	1	0
$Cl^- + H = HCl + e^-$	9.6×10^{-10}	0	0
$Na^+ + e^- + M = Na + M$	2.0×10^{-20}	2	0
$Na^+ + Cl^- = Na + Cl$	8.0×10^{-10}	0	0
$Na^+ + K = Na + K^+$	1.0×10^{-9}	0	0

AV. TRANSPORT PROPERTIES

A. Turbulent Eddy Viscosity Models

The following eddy viscosity models are incorporated into the program.

(Ting/Libby)

Initial region,

$$\mu = \rho\epsilon = 0.00137\, x\, |u_j - u_e| \rho \left(\frac{\rho_j}{\rho}\right) \tag{A12}$$

Developed region,

$$\mu = \rho\epsilon = K\, \bar{r}_{\frac{1}{2}} |u_o - u_e| \rho \left(\frac{\rho_o}{\rho}\right)^2 \left(\frac{\eta}{r}\right)^2 \tag{A13}$$

where

$$n = \sqrt{2 \int_o^r (\rho_o/\rho) r' dr'}$$

(Donaldson/Gray)

Initial region

$$\mu = \rho\epsilon = \bar{K}(r_{\frac{1}{2}} - r_i)\rho |u_o - u_e|/2 \tag{A14}$$

Developed region,

$$\mu = \rho\epsilon = \bar{K}\, r_{\frac{1}{2}}\, \rho |u_o - u_e|/2 \tag{A15}$$

where

ρ = density

ϵ = eddy diffusivity for turbulent flow

K = eddy viscosity coefficient (for Ting/Libby model)

$\bar{K}$ = eddy viscosity coefficient (for Donaldson/Gray model)

Specifically,

$$K = 0.025$$

and

$$\bar{K} = 0.0468 + M_{\frac{1}{2}}[-0.0460\ M_{\frac{1}{2}} + 0.0256\ M_{\frac{1}{2}}^2] \qquad (M_{\frac{1}{2}} \leq 1.2)$$

$$\bar{K} = 0.0248 \qquad (M_{\frac{1}{2}} > 1.2) \qquad \text{(A16)}$$

where $M_{\frac{1}{2}}$ is the value of the Mach number at the half radius $r_{\frac{1}{2}}$ (i.e., at the value of r where $u = (u_o + u_e)/2$).

$\bar{r}_{\frac{1}{2}}$ is the value of η where $u = (u_o + u_e)/2$. r_i is the inner mixing zone radius and is defined as the value of r where $(u_o - u_e)/(u_j - u_e) = 0.75$.

In the above equations

u_o = velocity at the axis of symmetry, r=0

u_e = velocity at the edge of the mixing layer (free stream)

u_j = velocity at the nozzle (jet) exit plane

and

r_j = radius at the nozzle (jet) exit plane

and

ρ_o = density at the axis of symmetry, r=0

ρ_j = density at the nozzle (jet) exit plane.

B. Laminar Flow

Sutherland's Law is used to describe the viscosity as a function

of temperature.

$$\mu = 9.8 \times 10^{-7} T^{3/2}/(T + 111) \qquad \text{(A17)}$$

AVI. PLUME ELECTRICAL PROPERTIES

Electron density and electron-neutral collision frequency are computed at all radial points for each axial print-out station.

A. Electron Density

$$n_e = 0.733(10^{22})X_{e^-}\, pT^{-1} \qquad ml^{-1} \tag{A18}$$

where p is in atm and T in degrees K.

B. Collision Frequency

$$\nu_e = 4.57(10^{27})pT^{-\frac{1}{2}} \sum X_i Q_{e_i} \qquad sec^{-1} \tag{A19}$$

where p is in atm, T in degrees K and Q_{e_i} in cm^2. The electron-neutral collision cross-sections used in the calculations and given in the following table are those which characterize typical solid propellant exhaust plumes. Similar expressions are used to calculate the densities and collision frequencies for the ions considered.

SPECIES	Q_{e_i} (cm^2)
CO	$2.08\ (10^{-23})v_e$ † $+ 2.46(10^{-16})$
CO_2	$4.7(10^{-8})v_e^{-1}$
H_2O	$5.9v_e^{-2}$
HCl	$1.85v_e^{-2}$
N_2	$3.29(10^{-23})v_e$
H_2	$1.45(10^{-23})v_e + 8.9(10^{-16})$

† $v_e = 6.21(10^5)T^{\frac{1}{2}}$ cm/sec

AVII. THERMODYNAMIC DATA

The thermodynamic properties (specific heat, Gibbs free energy and enthalpy) for each species are taken directly from the JANNAF Thermochemical Tables,[2] and input to the program in tabular form as a function of temperature. Linear interpolation is used to define thermodynamic properties at the local temperature.

APPENDIX B

LAPP computer code output for the Redeye Missile (unequally-spaced data).

POINT 1	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
0.00	1.44E-02	POSITION :	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE :	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
2	.02	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
3	.04	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
4	.06	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
5	.09	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
6	.11	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
7	.13	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
8	.15	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
9	.17	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
10	.19	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
11	.21	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
12	.24	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
13	.26	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
14	.28	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
15	.30	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
16	.32	.00	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
17	.34	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
18	.36	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
19	.39	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
20	.41	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
21	.43	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
22	.45	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
23	.47	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
24	.49	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
25	.52	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
26	.54	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
27	.56	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
28	.58	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
29	.60	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
30	.62	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
31	.64	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
32	.67	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
33	.69	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
34	.71	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
35	.73	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
36	.75	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
37	.77	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
38	.79	.01	1.59E+17	3.71E+11	3.58E+09	1.21E-02	8.82E-12
39	1.21	.02	0.	1.72E+11	0.	0.	8.85E-12

MAXIMUM CONDUCTIVITY : 1.21E-02 (MHOS/M)

POINT 28	NOZZLE RADIUS	ROCKET : REDEYE	FREQUENCY
.07	1.48E-02	POSITION : 5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE : 0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
2	.04	.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
3	.08	.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
4	.12	.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
5	.16	.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
6	.20	.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
7	.24	.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
8	.28	.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
9	.32	.00	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
10	.36	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
11	.40	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
12	.44	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
13	.48	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
14	.52	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
15	.56	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
16	.60	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
17	.64	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
18	.68	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
19	.72	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
20	.76	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
21	.80	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
22	.84	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
23	.88	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
24	.92	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
25	.96	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
26	1.00	.01	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
27	1.04	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
28	1.08	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
29	1.12	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
30	1.16	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
31	1.20	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
32	1.24	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
33	1.28	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
34	1.32	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
35	1.36	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
36	1.40	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
37	1.44	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
38	1.48	.02	1.10E+17	2.53E+11	2.97E+09	1.22E-02	8.81E-12
39	2.55	.03	0.	1.09E+11	0.	0.	8.85E-12

MAXIMUM CONDUCTIVITY : 1.22E-02 (MHOS/M)

POINT 38	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
.10	1.48E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
2	.08	.00	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
3	.16	.00	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
4	.24	.00	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
5	.32	.00	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
6	.40	.01	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
7	.48	.01	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
8	.56	.01	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
9	.64	.01	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
10	.72	.01	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
11	.80	.01	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
12	.88	.01	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
13	.96	.01	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
14	1.04	.02	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
15	1.12	.02	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
16	1.20	.02	1.46E+17	2.53E+11	3.43E+09	1.63E-02	8.79E-12
17	1.28	.02	1.47E+17	2.53E+11	3.44E+09	1.64E-02	8.79E-12
18	1.36	.02	1.74E+17	2.53E+11	3.75E+09	1.94E-02	8.78E-12
19	1.44	.02	5.44E+17	2.63E+11	6.62E+09	5.82E-02	8.63E-12
20	1.56	.02	2.98E+18	3.39E+11	1.52E+10	.24	8.15E-12
21	1.76	.03	2.38E+18	2.91E+11	1.38E+10	.23	8.06E-12
22	2.40	.04	3.12E+17	1.35E+11	5.01E+09	6.52E-02	8.37E-12

MAXIMUM CONDUCTIVITY : .24 (MHOS/M)

POINT 4	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
.30	1.49E-02	POSITION	5000'FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.60E+17	2.52E+11	3.59E+09	1.79E-02	8.78E-12
2	.16	.00	1.64E+17	2.51E+11	3.64E+09	1.84E-02	8.78E-12
3	.32	.00	1.77E+17	2.51E+11	3.78E+09	1.99E-02	8.78E-12
4	.49	.01	2.02E+17	2.51E+11	4.03E+09	2.27E-02	8.76E-12
5	.65	.01	2.42E+17	2.50E+11	4.41E+09	2.72E-02	8.75E-12
6	.83	.01	3.03E+17	2.50E+11	4.94E+09	3.41E-02	8.72E-12
7	1.01	.01	3.96E+17	2.50E+11	5.65E+09	4.47E-02	8.68E-12
8	1.21	.02	5.48E+17	2.51E+11	6.65E+09	6.16E-02	8.61E-12
9	1.42	.02	8.14E+17	2.54E+11	8.10E+09	9.01E-02	8.50E-12
10	1.67	.02	1.20E+18	2.61E+11	9.85E+09	.13	8.36E-12
11	1.96	.03	1.43E+18	2.68E+11	1.07E+10	.15	8.29E-12
12	2.31	.03	1.35E+18	2.74E+11	1.04E+10	.14	8.35E-12
13	2.71	.04	1.40E+18	2.82E+11	1.06E+10	.14	8.36E-12
14	3.17	.05	1.64E+18	2.96E+11	1.15E+10	.16	8.29E-12
15	3.68	.05	1.55E+18	2.93E+11	1.12E+10	.15	8.31E-12
16	4.25	.06	1.31E+18	2.74E+11	1.03E+10	.13	8.36E-12
17	4.88	.07	1.06E+18	2.58E+11	9.24E+09	.12	8.41E-12
18	5.60	.08	8.26E+17	2.38E+11	8.16E+09	9.78E-02	8.44E-12
19	6.42	.09	6.19E+17	2.13E+11	7.06E+09	8.17E-02	8.47E-12
20	7.41	.11	4.35E+17	1.86E+11	5.92E+09	6.57E-02	8.50E-12
21	8.66	.13	2.66E+17	1.58E+11	4.63E+09	4.73E-02	8.56E-12
22	10.42	.15	1.02E+17	1.29E+11	2.87E+09	2.24E-02	8.68E-12

MAXIMUM CONDUCTIVITY : .16 (MHOS/M)

POINT 5	NOZZLE RADIUS	ROCKET POSITION	REDEYE	FREQUENCY
.69 (M)	1.48E-02 (M)	PRESSURE	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	4.53E+17	2.48E+11	6.04E+09	5.14E-02	8.65E-12
2	.19	.00	4.61E+17	2.49E+11	6.09E+09	5.23E-02	8.64E-12
3	.38	.01	4.85E+17	2.48E+11	6.25E+09	5.51E-02	8.63E-12
4	.58	.01	5.29E+17	2.49E+11	6.53E+09	6.00E-02	8.61E-12
5	.78	.01	5.95E+17	2.49E+11	6.93E+09	6.74E-02	8.58E-12
6	.99	.01	6.69E+17	2.50E+11	7.45E+09	7.77E-02	8.54E-12
7	1.21	.02	8.14E+17	2.51E+11	8.10E+09	9.13E-02	8.49E-12
8	1.44	.02	9.61E+17	2.53E+11	8.90E+09	.11	8.43E-12
9	1.69	.02	1.09E+18	2.55E+11	9.39E+09	.12	8.38E-12
10	1.96	.03	1.15E+18	2.57E+11	9.64E+09	.13	8.36E-12
11	2.26	.03	1.11E+18	2.53E+11	9.44E+09	.12	8.39E-12
12	2.58	.04	9.91E+17	2.61E+11	8.94E+09	.11	8.44E-12
13	2.92	.04	8.84E+17	2.64E+11	8.44E+09	9.45E-02	8.50E-12
14	3.30	.05	8.39E+17	2.67E+11	8.23E+09	8.95E-02	8.52E-12
15	3.70	.05	8.98E+17	2.71E+11	8.51E+09	9.35E-02	8.51E-12
16	4.12	.06	1.06E+18	2.73E+11	9.33E+09	.11	8.45E-12
17	4.57	.07	1.30E+18	2.75E+11	1.02E+10	.13	8.37E-12
18	5.05	.07	1.39E+18	2.74E+11	1.06E+10	.14	8.33E-12
19	5.54	.08	1.37E+18	2.72E+11	1.05E+10	.14	8.34E-12
20	6.07	.09	1.28E+18	2.69E+11	1.01E+10	.13	8.36E-12
21	6.62	.10	1.16E+18	2.63E+11	9.68E+09	.12	8.38E-12
22	7.20	.11	1.04E+18	2.56E+11	9.17E+09	.11	8.41E-12
23	7.81	.12	9.20E+17	2.48E+11	8.61E+09	.10	8.43E-12
24	8.47	.12	7.94E+17	2.39E+11	8.00E+09	9.36E-02	8.46E-12
25	9.17	.14	6.67E+17	2.29E+11	7.33E+09	8.22E-02	8.49E-12
26	9.92	.15	5.51E+17	2.17E+11	6.66E+09	7.14E-02	8.53E-12
27	10.74	.16	4.77E+17	2.05E+11	6.20E+09	6.55E-02	8.54E-12
28	11.63	.17	4.07E+17	1.93E+11	5.73E+09	5.95E-02	8.55E-12
29	12.62	.19	3.59E+17	1.80E+11	5.23E+09	5.31E-02	8.56E-12
30	13.73	.20	2.73E+17	1.67E+11	4.69E+09	4.61E-02	8.58E-12
31	14.99	.22	2.08E+17	1.54E+11	4.10E+09	3.82E-02	8.61E-12
32	16.46	.24	1.44E+17	1.40E+11	3.41E+09	2.90E-02	8.65E-12
33	18.27	.27	7.86E+16	1.26E+11	2.52E+09	1.76E-02	8.71E-12

MAXIMUM CONDUCTIVITY = .14 (MHOS/M)

POINT 6	NOZZLE RADIUS	ROCKET POSITION & PRESSURE	REDEYE 5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	FREQUENCY
.99 (M)	1.48E-02 (M)			2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	AESCLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.81E+17	2.50E+11	7.94E+09	8.82E-02	8.50E-12
2	.23	.00	7.46E+17	2.50E+11	7.96E+09	8.87E-02	8.50E-12
3	.46	.01	8.00E+17	2.50E+11	8.03E+09	9.02E-02	8.49E-12
4	.69	.01	8.21E+17	2.50E+11	8.13E+09	9.25E-02	8.48E-12
5	.93	.01	8.46E+17	2.50E+11	8.26E+09	9.52E-02	8.47E-12
6	1.19	.02	8.69E+17	2.51E+11	8.37E+09	9.76E-02	8.46E-12
7	1.43	.02	8.81E+17	2.51E+11	8.43E+09	9.88E-02	8.46E-12
8	1.69	.02	8.71E+17	2.52E+11	8.38E+09	9.75E-02	8.47E-12
9	1.97	.03	8.33E+17	2.52E+11	8.19E+09	9.31E-02	8.48E-12
10	2.26	.03	7.70E+17	2.53E+11	7.88E+09	8.59E-02	8.51E-12
11	2.57	.04	6.95E+17	2.53E+11	7.49E+09	7.73E-02	8.55E-12
12	2.89	.04	6.21E+17	2.55E+11	7.07E+09	6.87E-02	8.58E-12
13	3.23	.05	5.59E+17	2.56E+11	6.71E+09	6.15E-02	8.61E-12
14	3.58	.05	5.22E+17	2.58E+11	6.48E+09	5.69E-02	8.63E-12
15	3.96	.06	5.14E+17	2.61E+11	6.44E+09	5.56E-02	8.64E-12
16	4.35	.06	5.48E+17	2.63E+11	6.65E+09	5.87E-02	8.63E-12
17	4.75	.07	6.38E+17	2.65E+11	7.17E+09	6.78E-02	8.60E-12
18	5.17	.09	7.93E+17	2.67E+11	7.99E+09	8.36E-02	8.54E-12
19	5.61	.08	9.84E+17	2.68E+11	8.91E+09	.10	8.47E-12
20	6.07	.09	1.14E+18	2.68E+11	9.61E+09	.12	8.41E-12
21	6.54	.10	1.23E+18	2.68E+11	9.97E+09	.13	8.37E-12
22	7.02	.10	1.24E+18	2.66E+11	1.00E+10	.13	8.36E-12
23	7.53	.11	1.21E+18	2.64E+11	9.86E+09	.13	8.37E-12
24	8.05	.12	1.14E+18	2.61E+11	9.59E+09	.12	8.39E-12
25	8.59	.13	1.06E+18	2.57E+11	9.24E+09	.12	8.40E-12
26	9.16	.14	9.67E+17	2.53E+11	8.83E+09	.11	8.43E-12
27	9.75	.14	8.62E+17	2.47E+11	8.34E+09	9.82E-02	8.46E-12
28	10.36	.15	7.44E+17	2.41E+11	7.75E+09	8.69E-02	8.49E-12
29	11.00	.16	6.15E+17	2.35E+11	7.04E+09	7.38E-02	8.54E-12
30	11.66	.17	4.82E+17	2.27E+11	6.23E+09	5.97E-02	8.59E-12
31	12.40	.18	3.64E+17	2.20E+11	5.41E+09	4.66E-02	8.64E-12
32	13.15	.19	2.81E+17	2.11E+11	4.76E+09	3.74E-02	8.68E-12
33	13.96	.21	2.53E+17	2.03E+11	4.57E+09	3.60E-02	8.69E-12
34	14.82	.22	2.37E+17	1.94E+11	4.37E+09	3.45E-02	8.69E-12
35	15.76	.23	2.15E+17	1.84E+11	4.14E+09	3.26E-02	8.68E-12
36	16.77	.25	1.87E+17	1.74E+11	3.88E+09	3.02E-02	8.69E-12
37	17.89	.26	1.58E+17	1.64E+11	3.57E+09	2.72E-02	8.69E-12
38	19.14	.28	1.27E+17	1.53E+11	3.20E+09	2.35E-02	8.70E-12
39	20.57	.30	9.42E+16	1.42E+11	2.76E+09	1.88E-02	8.72E-12
40	22.28	.33	5.37E+16	1.30E+11	2.19E+09	1.30E-02	8.75E-12
41	24.40	.36	2.69E+16	1.13E+11	1.47E+09	6.42E-03	8.80E-12

MAXIMUM CONDUCTIVITY = .13 (MHOS/M)

POINT 7	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
1.14	1.43E-02	POSITION	5000(FT)/10(FT/S)	2.50E+09
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.32E+17	2.49E+11	7.58E+09	8.29E-02	8.52E-12
2	.50	.01	7.35E+17	2.49E+11	7.70E+09	8.51E-02	8.52E-12
3	1.01	.01	7.32E+17	2.49E+11	7.68E+09	8.27E-02	8.52E-12
4	1.54	.02	6.99E+17	2.49E+11	7.51E+09	7.90E-02	8.54E-12
5	2.11	.03	6.18E+17	2.50E+11	7.06E+09	6.97E-02	8.58E-12
6	2.72	.04	5.15E+17	2.51E+11	6.44E+09	5.77E-02	8.62E-12
7	3.39	.05	4.32E+17	2.54E+11	5.90E+09	4.79E-02	8.67E-12
8	4.11	.06	4.08E+17	2.53E+11	5.74E+09	4.48E-02	8.68E-12
9	4.89	.07	4.84E+17	2.62E+11	6.27E+09	5.25E-02	8.65E-12
10	5.72	.08	7.41E+17	2.65E+11	7.73E+09	7.87E-02	8.56E-12
11	6.61	.10	1.03E+18	2.56E+11	9.27E+09	.11	8.43E-12
12	7.55	.11	1.19E+18	2.65E+11	9.81E+09	.13	8.37E-12
13	8.56	.13	1.13E+18	2.61E+11	9.55E+09	.12	8.38E-12
14	9.63	.14	9.83E+17	2.54E+11	8.90E+09	.11	8.42E-12
15	10.79	.16	7.77E+17	2.45E+11	7.92E+09	8.95E-02	8.49E-12
16	12.04	.18	5.19E+17	2.34E+11	6.47E+09	6.26E-02	8.59E-12
17	13.41	.20	2.81E+17	2.20E+11	4.76E+09	3.60E-02	8.69E-12
18	14.93	.22	1.32E+17	2.05E+11	3.93E+09	2.64E-02	8.73E-12
19	16.65	.25	1.08E+17	1.89E+11	3.57E+09	2.36E-02	8.73E-12
20	18.65	.28	1.23E+17	1.71E+11	3.15E+09	2.03E-02	8.74E-12
21	21.07	.31	8.38E+16	1.51E+11	2.60E+09	1.57E-02	8.75E-12
22	24.34	.36	3.51E+16	1.26E+11	1.63E+09	7.83E-03	8.79E-12

MAXIMUM CONDUCTIVITY = .13 (MHOS/M)

POINT #	NOZZLE RADIUS	POCKET POSITION / PRESSURE	REDEYE	FREQUENCY
1.44 (M)	1.49E-02 (M)	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)		2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	3.60E+17	2.42E+11	5.36E+09	4.18E-02	8.68E-12
2	.57	.01	3.53E+17	2.42E+11	5.33E+09	4.10E-02	8.68E-12
3	1.16	.02	3.33E+17	2.42E+11	5.18E+09	3.87E-02	8.69E-12
4	1.76	.03	3.03E+17	2.43E+11	4.94E+09	3.51E-02	8.71E-12
5	2.38	.04	2.70E+17	2.44E+11	4.66E+09	3.12E-02	8.73E-12
6	3.04	.04	2.42E+17	2.46E+11	4.42E+09	2.78E-02	8.74E-12
7	3.72	.05	2.30E+17	2.49E+11	4.30E+09	2.59E-02	8.75E-12
8	4.45	.07	2.42E+17	2.53E+11	4.42E+09	2.69E-02	8.75E-12
9	5.22	.08	3.00E+17	2.57E+11	4.92E+09	3.26E-02	8.73E-12
10	6.02	.09	4.42E+17	2.61E+11	5.97E+09	4.78E-02	8.67E-12
11	6.96	.10	6.93E+17	2.63E+11	7.47E+09	7.43E-02	8.57E-12
12	7.75	.11	9.52E+17	2.63E+11	8.76E+09	.10	8.47E-12
13	8.68	.13	1.08E+18	2.62E+11	9.32E+09	.12	8.41E-12
14	9.66	.14	1.06E+18	2.59E+11	9.25E+09	.12	8.41E-12
15	10.69	.16	9.45E+17	2.54E+11	8.73E+09	.10	8.44E-12
16	11.79	.17	7.65E+17	2.47E+11	7.80E+09	8.60E-02	8.51E-12
17	12.96	.19	5.07E+17	2.39E+11	6.39E+09	5.97E-02	8.60E-12
18	14.21	.21	2.71E+17	2.30E+11	4.68E+09	3.32E-02	8.71E-12
19	15.56	.23	1.24E+17	2.19E+11	3.17E+09	1.60E-02	8.78E-12
20	17.03	.25	6.43E+16	2.08E+11	2.28E+09	8.71E-03	8.81E-12
21	18.64	.27	7.09E+16	1.96E+11	2.39E+09	1.02E-02	8.80E-12
22	20.42	.30	7.10E+16	1.83E+11	2.39E+09	1.09E-02	8.79E-12
23	22.41	.33	6.43E+16	1.70E+11	2.28E+09	1.07E-02	8.79E-12
24	24.66	.36	5.33E+16	1.57E+11	2.07E+09	9.56E-03	8.79E-12
25	27.26	.40	4.05E+16	1.45E+11	1.81E+09	7.89E-03	8.80E-12
26	30.31	.45	2.73E+16	1.33E+11	1.48E+09	5.80E-03	8.81E-12
27	34.01	.50	1.41E+16	1.21E+11	1.07E+09	3.28E-03	8.83E-12

MAXIMUM CONDUCTIVITY : .12 (MHOS/M)

POINT 9	NOZZLE RADIUS	ROCKET POSITION / PRESSURE	REDEYE 5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	FREQUENCY
1.75 (M)	1.49E-02 (M)			2.50E+08 (HZ)

RADIAL	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.26E+17	2.35E+11	3.19E+09	1.51E-02	8.79E-12
2	.64	.01	1.25E+17	2.36E+11	3.17E+09	1.49E-02	8.79E-12
3	1.28	.02	1.22E+17	2.36E+11	3.13E+09	1.45E-02	8.79E-12
4	1.94	.03	1.19E+17	2.38E+11	3.08E+09	1.39E-02	8.80E-12
5	2.61	.04	1.19E+17	2.40E+11	3.05E+09	1.35E-02	8.80E-12
6	3.31	.05	1.17E+17	2.43E+11	3.07E+09	1.35E-02	8.80E-12
7	4.02	.06	1.26E+17	2.47E+11	3.18E+09	1.44E-02	8.80E-12
8	4.76	.07	1.48E+17	2.50E+11	3.45E+09	1.66E-02	8.79E-12
9	5.53	.08	1.95E+17	2.54E+11	3.96E+09	2.16E-02	8.77E-12
10	6.33	.09	2.88E+17	2.57E+11	4.92E+09	3.16E-02	8.73E-12
11	7.16	.11	4.48E+17	2.59E+11	6.01E+09	4.88E-02	8.67E-12
12	8.02	.12	6.56E+17	2.60E+11	7.29E+09	7.14E-02	8.58E-12
13	8.92	.13	8.49E+17	2.60E+11	8.27E+09	9.21E-02	8.50E-12
14	9.85	.15	9.45E+17	2.58E+11	8.73E+09	.10 *	8.45E-12
15	10.83	.16	9.26E+17	2.55E+11	8.64E+09	.10 *	8.45E-12
16	11.85	.17	8.02E+17	2.51E+11	8.04E+09	8.99E-02	8.50E-12
17	12.93	.19	5.94E+17	2.46E+11	6.92E+09	6.80E-02	8.58E-12
18	14.06	.21	3.57E+17	2.40E+11	5.37E+09	4.19E-02	8.68E-12
19	15.27	.23	1.74E+17	2.33E+11	3.75E+09	2.11E-02	8.76E-12
20	16.54	.24	7.59E+16	2.25E+11	2.47E+09	9.52E-03	8.81E-12
21	17.91	.26	3.47E+16	2.16E+11	1.67E+09	4.54E-03	8.83E-12
22	19.37	.29	2.13E+16	2.06E+11	1.30E+09	2.88E-03	8.84E-12
23	20.95	.31	2.62E+16	1.96E+11	1.45E+09	3.77E-03	8.83E-12
24	22.67	.33	2.84E+16	1.86E+11	1.51E+09	4.31E-03	8.83E-12
25	24.55	.36	2.77E+16	1.75E+11	1.50E+09	4.47E-03	8.83E-12
26	26.63	.39	2.53E+16	1.64E+11	1.43E+09	4.33E-03	8.83E-12
27	28.94	.43	2.19E+16	1.54E+11	1.32E+09	3.99E-03	8.83E-12
28	31.55	.47	1.77E+16	1.44E+11	1.19E+09	3.47E-03	8.83E-12
29	34.52	.51	1.33E+16	1.34E+11	1.04E+09	2.90E-03	8.83E-12
30	37.94	.56	8.88E+15	1.25E+11	8.46E+08	2.00E-03	8.84E-12
31	41.96	.62	4.44E+15	1.17E+11	6.01E+08	1.04E-03	8.84E-12

MAXIMUM CONDUCTIVITY = .10 (MHOS/M)

#POINT10#	NOZZLE RADIUS	#ROCKET	REDEYE	#	FREQUENCY	#
# 2.06 #	1.48E-02	#POSITION :	5000(FT)/10(FT/S)	#	2.50E+08	#
# (M) #	(M)	#PRESSURE :	0.832 (ATMOSPHERES)	#	(HZ)	#

# RADIAL INDEX #	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	5.22E+16	2.34E+11	2.05E+09	6.29E-03	8.83E-12
2	.69	.01	5.24E+16	2.34E+11	2.06E+09	6.31E-03	8.83E-12
3	1.38	.02	5.34E+16	2.35E+11	2.07E+09	6.40E-03	8.83E-12
4	2.06	.03	5.55E+16	2.37E+11	2.12E+09	6.60E-03	8.83E-12
5	2.80	.04	5.96E+16	2.39E+11	2.19E+09	7.01E-03	8.82E-12
6	3.52	.05	6.69E+16	2.42E+11	2.32E+09	7.78E-03	8.82E-12
7	4.26	.06	7.94E+16	2.45E+11	2.53E+09	9.13E-03	8.82E-12
8	5.02	.07	1.02E+17	2.48E+11	2.96E+09	1.15E-02	8.81E-12
9	5.80	.09	1.41E+17	2.51E+11	3.37E+09	1.58E-02	8.79E-12
10	6.61	.10	2.06E+17	2.54E+11	4.08E+09	2.29E-02	8.76E-12
11	7.44	.11	3.12E+17	2.56E+11	5.02E+09	3.44E-02	8.72E-12
12	8.29	.12	4.54E+17	2.57E+11	5.05E+09	4.99E-02	8.66E-12
13	9.17	.14	6.11E+17	2.57E+11	7.02E+09	6.71E-02	8.59E-12
14	10.09	.15	7.33E+17	2.56E+11	7.69E+09	8.07E-02	8.54E-12
15	11.04	.16	7.81E+17	2.54E+11	7.93E+09	8.65E-02	8.51E-12
16	12.03	.18	7.18E+17	2.52E+11	7.61E+09	8.04E-02	8.53E-12
17	13.05	.19	5.56E+17	2.48E+11	6.69E+09	6.31E-02	8.60E-12
18	14.13	.21	3.48E+17	2.44E+11	5.30E+09	4.03E-02	8.69E-12
19	15.26	.23	1.77E+17	2.38E+11	3.79E+09	2.09E-02	8.77E-12
20	16.44	.24	7.77E+16	2.32E+11	2.50E+09	9.43E-03	8.81E-12
21	17.69	.26	3.30E+16	2.25E+11	1.63E+09	4.12E-03	8.84E-12
22	19.01	.28	1.54E+16	2.18E+11	1.11E+09	1.99E-03	8.85E-12
23	20.41	.30	9.36E+15	2.10E+11	8.69E+08	1.26E-03	8.85E-12
24	21.90	.32	1.03E+16	2.01E+11	9.09E+08	1.43E-03	8.85E-12
25	23.51	.35	1.09E+16	1.93E+11	9.39E+08	1.60E-03	8.85E-12
26	25.23	.37	1.13E+16	1.84E+11	9.56E+08	1.74E-03	8.84E-12
27	27.10	.40	1.13E+16	1.75E+11	9.56E+08	1.83E-03	8.84E-12
28	29.13	.43	1.09E+16	1.65E+11	9.39E+08	1.86E-03	8.84E-12
29	31.36	.46	1.01E+16	1.56E+11	9.04E+08	1.82E-03	8.84E-12
30	33.82	.50	8.97E+15	1.48E+11	8.50E+08	1.71E-03	8.84E-12
31	36.55	.54	7.51E+15	1.39E+11	7.78E+08	1.52E-03	8.84E-12
32	39.61	.58	5.84E+15	1.31E+11	6.96E+08	1.25E-03	8.84E-12
33	43.09	.64	4.04E+15	1.24E+11	5.71E+08	9.20E-04	8.85E-12
34	47.05	.69	2.23E+15	1.17E+11	4.24E+08	5.36E-04	8.85E-12
35	51.66	.76	7.27E+14	1.11E+11	2.42E+08	1.84E-04	8.85E-12

MAXIMUM CONDUCTIVITY : 8.65E-02 (MHOS/M)

POINT 11	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
2.36	1.48E-02	POSITION :	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE :	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	9.09E+16	2.36E+11	1.56E+09	3.69E-03	8.84E-12
2	.73	.01	9.14E+16	2.36E+11	1.57E+09	3.75E-03	8.84E-12
3	1.46	.02	9.31E+16	2.37E+11	1.63E+09	3.93E-03	8.84E-12
4	2.19	.03	9.61E+16	2.39E+11	1.71E+09	4.27E-03	8.84E-12
5	2.93	.04	1.10E+16	2.40E+11	1.82E+09	4.81E-03	8.83E-12
6	3.69	.05	4.41E+16	2.43E+11	1.99E+09	5.70E-03	8.83E-12
7	4.45	.07	6.17E+16	2.45E+11	2.23E+09	7.09E-03	8.83E-12
8	5.23	.08	8.20E+16	2.48E+11	2.57E+09	9.33E-03	8.82E-12
9	6.03	.09	1.14E+17	2.50E+11	3.03E+09	1.28E-02	8.80E-12
10	6.84	.10	1.63E+17	2.52E+11	3.63E+09	1.83E-02	8.78E-12
11	7.67	.11	2.34E+17	2.53E+11	4.35E+09	2.61E-02	8.75E-12
12	8.53	.13	3.28E+17	2.54E+11	5.14E+09	3.64E-02	8.71E-12
13	9.41	.14	4.36E+17	2.54E+11	5.93E+09	4.83E-02	8.66E-12
14	10.32	.15	5.32E+17	2.54E+11	6.55E+09	5.91E-02	8.62E-12
15	11.26	.17	5.49E+17	2.53E+11	6.99E+09	6.57E-02	8.59E-12
16	12.23	.18	5.62E+17	2.51E+11	6.73E+09	6.32E-02	8.60E-12
17	13.23	.20	4.42E+17	2.48E+11	5.97E+09	5.03E-02	8.65E-12
18	15.36	.23	1.44E+17	2.40E+11	3.41E+09	1.69E-02	8.78E-12
19	16.49	.24	6.39E+16	2.36E+11	2.27E+09	7.65E-03	8.82E-12
20	17.67	.26	2.68E+16	2.30E+11	1.47E+09	3.28E-03	8.84E-12
21	18.92	.28	1.16E+16	2.24E+11	9.68E+08	1.46E-03	8.85E-12
22	20.22	.30	5.44E+15	2.18E+11	6.86E+08	7.57E-04	8.85E-12
23	21.60	.32	3.73E+15	2.11E+11	5.48E+08	4.99E-04	8.85E-12
24	23.05	.34	3.19E+15	2.03E+11	5.07E+08	4.43E-04	8.85E-12
25	24.60	.36	4.55E+15	1.96E+11	6.06E+08	6.56E-04	8.85E-12
26	26.25	.39	5.24E+15	1.88E+11	6.50E+08	7.87E-04	8.85E-12
27	28.02	.41	5.52E+15	1.80E+11	6.67E+08	8.65E-04	8.85E-12
28	29.91	.44	5.56E+15	1.72E+11	6.69E+08	9.12E-04	8.85E-12
29	31.96	.47	5.41E+15	1.64E+11	6.61E+08	9.32E-04	8.85E-12
30	34.19	.50	5.11E+15	1.56E+11	6.42E+08	9.23E-04	8.85E-12
31	36.61	.54	4.65E+15	1.48E+11	6.12E+08	8.83E-04	8.85E-12
32	39.27	.58	4.05E+15	1.41E+11	5.72E+08	8.11E-04	8.85E-12
33	42.20	.62	3.36E+15	1.34E+11	5.20E+08	7.08E-04	8.85E-12
34	45.45	.67	2.60E+15	1.27E+11	4.58E+08	5.75E-04	8.85E-12
35	49.06	.72	1.81E+15	1.21E+11	3.82E+08	4.20E-04	8.85E-12
36	53.13	.78	1.05E+15	1.16E+11	2.92E+08	2.57E-04	8.85E-12
37	57.64	.85	4.39E+14	1.11E+11	1.98E+08	1.11E-04	8.85E-12

MAXIMUM CONDUCTIVITY : 6.57E-02 (MHOS/M)

POINT12	NOZZLE RADIUS	ROCKET POSITION & PRESSURE	REDEYE 5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	FREQUENCY
2.67 (M)	1.48E-02 (M)			2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	2.63E+16	2.39E+11	1.46E+09	3.10E-03	8.84E-12
2	.75	.01	2.69E+16	2.33E+11	1.47E+09	3.16E-03	8.84E-12
3	1.51	.02	2.87E+16	2.40E+11	1.52E+09	3.37E-03	8.84E-12
4	2.27	.03	3.20E+16	2.41E+11	1.61E+09	3.74E-03	8.84E-12
5	3.04	.04	3.72E+16	2.43E+11	1.73E+09	4.32E-03	8.84E-12
6	3.81	.06	4.53E+16	2.44E+11	1.91E+09	5.22E-03	8.83E-12
7	4.60	.07	5.75E+16	2.46E+11	2.15E+09	6.59E-03	8.83E-12
8	5.40	.08	7.52E+16	2.48E+11	2.46E+09	8.56E-03	8.82E-12
9	6.21	.09	1.02E+17	2.49E+11	2.86E+09	1.15E-02	8.81E-12
10	7.03	.10	1.39E+17	2.51E+11	3.34E+09	1.56E-02	8.79E-12
11	7.85	.12	1.87E+17	2.52E+11	3.89E+09	2.10E-02	8.77E-12
12	8.74	.13	2.49E+17	2.52E+11	4.48E+09	2.79E-02	8.74E-12
13	9.63	.14	3.17E+17	2.52E+11	5.06E+09	3.54E-02	8.71E-12
14	10.54	.16	3.80E+17	2.52E+11	5.53E+09	4.25E-02	8.69E-12
15	11.47	.17	4.19E+17	2.51E+11	5.81E+09	4.71E-02	8.67E-12
16	12.43	.18	3.99E+17	2.49E+11	5.67E+09	4.51E-02	8.67E-12
17	13.43	.20	3.12E+17	2.47E+11	5.02E+09	3.56E-02	8.71E-12
18	14.45	.21	1.96E+17	2.44E+11	3.98E+09	2.27E-02	8.76E-12
19	15.51	.23	1.02E+17	2.41E+11	2.86E+09	1.19E-02	8.80E-12
20	16.61	.25	4.58E+16	2.37E+11	1.92E+09	5.45E-03	8.83E-12
21	17.76	.26	1.92E+16	2.32E+11	1.25E+09	2.33E-03	8.84E-12
22	18.95	.28	8.09E+15	2.27E+11	8.07E+08	1.00E-03	8.85E-12
23	20.20	.30	3.70E+15	2.22E+11	5.46E+08	4.70E-04	8.85E-12
24	21.50	.32	2.02E+15	2.16E+11	4.03E+08	2.63E-04	8.85E-12
25	22.88	.34	1.39E+15	2.10E+11	3.35E+08	1.87E-04	8.85E-12
26	24.32	.36	1.29E+15	2.03E+11	3.21E+08	1.77E-04	8.85E-12
27	25.84	.38	1.47E+15	1.96E+11	3.38E+08	2.68E-04	8.85E-12
28	27.45	.40	2.54E+15	1.89E+11	4.35E+08	3.49E-04	8.85E-12
29	29.17	.43	2.67E+15	1.92E+11	4.64E+08	4.14E-04	8.85E-12
30	30.99	.46	2.96E+15	1.75E+11	4.81E+08	4.61E-04	8.85E-12
31	32.94	.49	2.93E+15	1.69E+11	4.46E+08	4.92E-04	8.85E-12
32	35.04	.52	2.89E+15	1.61E+11	4.83E+08	5.07E-04	8.85E-12
33	37.30	.55	2.76E+15	1.54E+11	4.72E+08	5.06E-04	8.85E-12
34	39.75	.59	2.55E+15	1.47E+11	4.53E+08	4.90E-04	8.85E-12
35	42.40	.63	2.27E+15	1.40E+11	4.28E+08	4.57E-04	8.85E-12
36	45.30	.67	1.9 E+15	1.34E+11	3.96E+08	4.09E-04	8.85E-12
37	48.47	.72	1.5 E+15	1.28E+11	3.57E+08	3.47E-04	8.85E-12
38	51.95	.77	1.1 E+15	1.23E+11	3.10E+08	2.74E-04	8.85E-12
39	55.78	.82	8.02E+14	1.18E+11	2.54E+08	1.92E-04	8.85E-12
40	60.01	.89	4.16E+14	1.13E+11	1.83E+08	1.03E-04	8.85E-12
41	64.68	.95	9.53E+13	1.10E+11	9.31E+07	2.48E-05	8.85E-12

MAXIMUM CONDUCTIVITY : 4.71E-02 (MHOS/M)

POINT 13	NOZZLE RADIUS	POCKET POSITION & PRESSURE	REDEYE 5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	FREQUENCY
2.97 (M)	1.48E-02 (M)			2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	2.90E+16	2.42E+11	1.53E+09	3.37E-03	8.84E-12
2	.71	.01	2.86E+16	2.43E+11	1.55E+09	3.44E-03	8.84E-12
3	1.56	.02	3.16E+16	2.43E+11	1.60E+09	3.66E-03	8.84E-12
4	2.34	.03	3.32E+16	2.44E+11	1.68E+09	4.04E-03	8.84E-12
5	3.12	.05	4.06E+16	2.45E+11	1.81E+09	4.68E-03	8.84E-12
6	3.92	.06	4.35E+16	2.46E+11	1.98E+09	5.56E-03	8.83E-12
7	4.72	.07	6.00E+16	2.47E+11	2.20E+09	6.84E-03	8.83E-12
8	5.54	.08	7.59E+16	2.48E+11	2.47E+09	8.63E-03	8.82E-12
9	6.36	.09	9.70E+16	2.49E+11	2.80E+09	1.10E-02	8.81E-12
10	7.20	.11	1.24E+17	2.50E+11	3.16E+09	1.40E-02	8.80E-12
11	8.06	.12	1.58E+17	2.50E+11	3.57E+09	1.76E-02	8.78E-12
12	8.93	.13	1.98E+17	2.51E+11	4.00E+09	2.23E-02	8.77E-12
13	9.83	.14	2.39E+17	2.50E+11	4.39E+09	2.69E-02	8.75E-12
14	10.74	.16	2.78E+17	2.50E+11	4.71E+09	3.11E-02	8.73E-12
15	11.67	.17	2.92E+17	2.49E+11	4.85E+09	3.31E-02	8.72E-12
16	12.63	.19	2.69E+17	2.47E+11	4.66E+09	3.06E-02	8.73E-12
17	13.62	.20	2.05E+17	2.46E+11	4.06E+09	2.35E-02	8.76E-12
18	14.64	.22	1.27E+17	2.43E+11	3.20E+09	1.47E-02	8.79E-12
19	15.69	.23	6.61E+16	2.40E+11	2.31E+09	7.75E-03	8.82E-12
20	16.77	.25	3.04E+16	2.37E+11	1.57E+09	3.61E-03	8.84E-12
21	17.89	.26	1.30E+16	2.33E+11	1.02E+09	1.57E-03	8.85E-12
22	19.06	.28	5.45E+15	2.29E+11	6.63E+08	6.72E-04	8.85E-12
23	20.27	.30	2.40E+15	2.24E+11	4.40E+08	3.01E-04	8.85E-12
24	21.53	.32	1.20E+15	2.19E+11	3.11E+08	1.54E-04	8.85E-12
25	22.84	.34	7.43E+14	2.14E+11	2.45E+08	9.80E-05	8.85E-12
26	24.22	.36	5.90E+14	2.09E+11	2.18E+08	9.00E-05	8.85E-12
27	25.66	.38	6.12E+14	2.02E+11	2.22E+08	8.54E-05	8.85E-12
28	27.17	.40	9.78E+14	1.96E+11	2.81E+08	1.41E-04	8.85E-12
29	28.77	.42	1.27E+15	1.89E+11	3.20E+08	1.99E-04	8.85E-12
30	30.46	.45	1.47E+15	1.83E+11	3.44E+08	2.27E-04	8.85E-12
31	32.24	.48	1.61E+15	1.76E+11	3.60E+08	2.57E-04	8.85E-12
32	34.14	.50	1.66E+15	1.70E+11	3.58E+08	2.79E-04	8.85E-12
33	36.17	.53	1.70E+15	1.63E+11	3.70E+08	2.94E-04	8.85E-12
34	38.34	.57	1.64E+15	1.57E+11	3.63E+08	3.01E-04	8.85E-12
35	40.66	.60	1.60E+15	1.50E+11	3.60E+08	3.00E-04	8.85E-12
36	43.16	.64	1.49E+15	1.44E+11	3.47E+08	2.91E-04	8.85E-12
37	45.85	.68	1.34E+15	1.38E+11	3.29E+08	2.73E-04	8.85E-12
38	48.77	.72	1.17E+15	1.31E+11	3.06E+08	2.47E-04	8.85E-12
39	51.94	.77	9.69E+14	1.26E+11	2.79E+08	2.13E-04	8.85E-12
40	55.37	.82	7.53E+14	1.23E+11	2.48E+08	1.75E-04	8.85E-12
41	59.13	.87	5.57E+14	1.13E+11	2.12E+08	1.32E-04	8.85E-12
42	63.14	.93	3.64E+14	1.15E+11	1.70E+08	8.83E-05	8.85E-12
43	67.50	1.00	1.76E+14	1.12E+11	1.19E+08	4.45E-05	8.85E-12

MAXIMUM CONDUCTIVITY = 3.51E-02 (MHOS/M)

#FCINT14#	NOZZLE RADIUS	#ROCKET	REDEYE	#	FREQUENCY	#
# 3.01 #	1.43E-02	#POSITION	5000(FT)/10(FT/S)	#	2.50E+08	#
# (M) #	(M)	#PRESSURE	0.832 (ATMOSPHERES)	#	(HZ)	#

# RADIAL# INDEX #	RELATIVE* RADIUS * (M)	ABSOLUTE# RADIUS # (M)	ELECTRON* DENSITY * (1/M3)	COLLISION# FREQUENCY# (1/S)	PLASMA # FREQUENCY# (1/S)	SIGMA * (MHO/M)	EPSILON # * (FD/M) #
# 1 #	0.00 *	0.00 #	2.97E+16*	2.45E+11#	1.55E+09#	3.45E-03*	8.84E-12#
# 2 #	1.56 *	.02 #	3.24E+16*	2.43E+11#	1.62E+09#	3.75E-03*	8.84E-12#
# 3 #	3.14 *	.05 #	4.14E+16*	2.45E+11#	1.83E+09#	4.76E-03*	8.83E-12#
# 4 #	4.74 *	.07 #	6.07E+16*	2.47E+11#	2.21E+09#	6.92E-03*	8.83E-12#
# 5 #	6.38 *	.09 #	9.67E+16*	2.49E+11#	2.79E+09#	1.09E-02*	8.81E-12#
# 6 #	9.09 *	.12 #	1.56E+17*	2.50E+11#	3.54E+09#	1.75E-02*	8.78E-12#
# 7 #	9.85 *	.15 #	2.31E+17*	2.50E+11#	4.32E+09#	2.60E-02*	8.75E-12#
# 8 #	11.70 *	.17 #	2.79E+17*	2.43E+11#	4.74E+09#	3.16E-02*	8.73E-12#
# 9 #	13.65 *	.20 #	1.93E+17*	2.45E+11#	3.94E+09#	2.22E-02*	8.76E-12#
# 10 #	15.71 *	.23 #	6.23E+16*	2.40E+11#	2.24E+09#	7.31E-03*	8.82E-12#
# 11 #	17.91 *	.26 #	1.23E+16*	2.33E+11#	9.96E+08#	1.49E-03*	8.85E-12#
# 12 #	20.28 *	.30 #	2.27E+15*	2.24E+11#	4.27E+08#	2.85E-04*	8.85E-12#
# 13 #	22.94 *	.34 #	6.77E+14*	2.14E+11#	2.34E+08#	9.91E-05*	8.85E-12#
# 14 #	25.64 *	.38 #	5.36E+14*	2.03E+11#	2.08E+08#	7.45E-05*	8.85E-12#
# 15 #	28.74 *	.42 #	1.10E+15*	1.90E+11#	2.98E+08#	1.64E-04*	8.85E-12#
# 16 #	32.18 *	.47 #	1.47E+15*	1.77E+11#	3.44E+08#	2.33E-04*	8.85E-12#
# 17 #	36.06 *	.53 #	1.60E+15*	1.64E+11#	3.59E+08#	2.74E-04*	8.85E-12#
# 18 #	40.49 *	.60 #	1.53E+15*	1.52E+11#	3.51E+08#	2.94E-04*	8.85E-12#
# 19 #	45.60 *	.67 #	1.30E+15*	1.40E+11#	3.24E+08#	2.62E-04*	8.85E-12#
# 20 #	51.57 *	.76 #	9.61E+14*	1.29E+11#	2.78E+08#	2.10E-04*	8.85E-12#
# 21 #	58.58 *	.86 #	5.75E+14*	1.20E+11#	2.15E+08#	1.35E-04*	8.85E-12#
# 22 #	66.85 *	.99 #	1.91E+14*	1.12E+11#	1.24E+08#	.79E-05*	8.85E-12#

MAXIMUM CONDUCTIVITY : 3.16E-02 (MHOS/M)

POINT 16	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
3.32 (M)	1.43E-02 (M)	POSITION PRESSURE	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+00 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	3.58E+16	2.44E+11	1.70E+09	4.14E-03	8.84E-12
2	1.61	.02	3.87E+16	2.44E+11	1.77E+09	4.46E-03	8.84E-12
3	3.22	.05	4.79E+16	2.46E+11	1.97E+09	5.49E-03	8.83E-12
4	4.86	.07	6.55E+16	2.47E+11	2.30E+09	7.47E-03	8.82E-12
5	6.53	.10	9.43E+16	2.49E+11	2.76E+09	1.07E-02	8.81E-12
6	8.26	.12	1.36E+17	2.49E+11	3.31E+09	1.54E-02	8.79E-12
7	10.04	.15	1.91E+17	2.49E+11	3.82E+09	2.05E-02	8.77E-12
8	11.90	.17	1.96E+17	2.47E+11	3.97E+09	2.23E-02	8.76E-12
9	13.85	.20	1.24E+17	2.44E+11	3.16E+09	1.43E-02	8.80E-12
10	15.91	.23	4.04E+16	2.39E+11	1.90E+09	4.75E-03	8.83E-12
11	18.08	.27	8.83E+15	2.33E+11	8.44E+08	1.07E-03	8.85E-12
12	20.41	.30	1.73E+15	2.25E+11	3.74E+08	2.17E-04	8.85E-12
13	22.90	.34	4.42E+14	2.16E+11	1.99E+08	5.76E-05	8.85E-12
14	25.61	.38	2.60E+14	2.06E+11	1.45E+08	3.56E-05	8.85E-12
15	28.56	.42	5.55E+14	1.95E+11	2.12E+08	9.02E-05	8.85E-12
16	31.81	.47	7.35E+14	1.84E+11	2.53E+08	1.22E-04	8.85E-12
17	35.42	.52	9.49E+14	1.71E+11	2.77E+08	1.56E-04	8.85E-12
18	39.46	.58	1.00E+15	1.60E+11	2.94E+08	1.77E-04	8.85E-12
19	44.05	.65	9.56E+14	1.48E+11	2.78E+08	1.62E-04	8.85E-12
20	49.25	.73	8.26E+14	1.38E+11	2.59E+08	1.69E-04	8.85E-12
21	55.28	.82	6.41E+14	1.29E+11	2.27E+08	1.40E-04	8.85E-12
22	62.13	.92	4.39E+14	1.21E+11	1.86E+08	1.02E-04	8.85E-12
23	69.81	1.03	2.56E+14	1.15E+11	1.44E+08	6.26E-05	8.85E-12
24	78.19	1.15	1.12E+14	1.11E+11	9.52E+07	2.36E-05	8.85E-12

MAXIMUM CONDUCTIVITY : 2.23E-02 (MHOS/M)

POINT16	NOZZLE RADIUS	ROCKET POSITION	REDEYE 5.00(FT)/10(FT/S) PRESSURE 0.932 (ATMOSPHERES)	FREQUENCY
3.65 (M)	1.48E-02 (M)			2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	4.66E+16	2.46E+11	1.94E+09	5.34E-03	8.83E-12
2	1.64	.02	4.92E+16	2.46E+11	1.99E+09	5.64E-03	8.83E-12
3	3.29	.05	5.73E+16	2.46E+11	2.15E+09	6.55E-03	8.83E-12
4	4.97	.07	7.21E+16	2.47E+11	2.41E+09	9.22E-03	8.82E-12
5	6.67	.10	9.42E+16	2.48E+11	2.76E+09	1.07E-02	8.81E-12
6	8.42	.12	1.21E+17	2.48E+11	3.12E+09	1.37E-02	8.80E-12
7	10.23	.15	1.45E+17	2.47E+11	3.41E+09	1.65E-02	8.79E-12
8	12.10	.18	1.35E+17	2.46E+11	3.30E+09	1.55E-02	8.79E-12
9	14.06	.21	7.53E+16	2.43E+11	2.46E+09	8.74E-03	8.82E-12
10	16.11	.24	2.41E+16	2.38E+11	1.39E+09	2.85E-03	8.84E-12
11	18.27	.27	5.55E+15	2.33E+11	6.69E+08	6.72E-04	8.85E-12
12	20.57	.30	1.15E+15	2.26E+11	3.04E+08	1.43E-04	8.85E-12
13	23.02	.34	2.90E+14	2.18E+11	1.53E+08	3.75E-05	8.85E-12
14	25.65	.38	1.63E+14	2.09E+11	1.15E+08	2.20E-05	8.85E-12
15	28.50	.42	3.49E+14	1.98E+11	1.68E+08	4.95E-05	8.85E-12
16	31.61	.47	5.09E+14	1.85E+11	2.02E+08	7.63E-05	8.85E-12
17	35.02	.52	6.26E+14	1.77E+11	2.25E+08	9.57E-05	8.85E-12
18	38.80	.57	6.92E+14	1.66E+11	2.36E+08	1.17E-04	8.85E-12
19	43.02	.63	7.02E+14	1.55E+11	2.38E+08	1.27E-04	8.85E-12
20	47.75	.70	6.58E+14	1.45E+11	2.30E+08	1.28E-04	8.85E-12
21	53.10	.78	5.71E+14	1.36E+11	2.15E+08	1.18E-04	8.85E-12
22	59.14	.87	4.56E+14	1.28E+11	1.92E+08	1.00E-04	8.85E-12
23	65.92	.97	3.30E+14	1.21E+11	1.65E+08	7.67E-05	8.85E-12
24	73.41	1.08	2.11E+14	1.16E+11	1.30E+08	5.12E-05	8.85E-12
25	81.52	1.20	1.13E+14	1.12E+11	9.54E+07	2.83E-05	8.85E-12
26	90.07	1.33	4.41E+13	1.10E+11	5.96E+07	1.13E-05	8.85E-12

MAXIMUM CONDUCTIVITY = 1.65E-02 (MHOS/M)

POINT17	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
3.33	1.49E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	5.77E+16	2.47E+11	2.16E+09	6.59E-03	8.83E-12
2	1.68	.02	6.00E+16	2.47E+11	2.20E+09	6.85E-03	8.83E-12
3	3.36	.05	6.69E+16	2.47E+11	2.32E+09	7.63E-03	8.82E-12
4	5.06	.07	7.82E+16	2.47E+11	2.51E+09	8.91E-03	8.82E-12
5	6.80	.10	9.31E+16	2.47E+11	2.74E+09	1.06E-02	8.81E-12
6	8.58	.13	1.09E+17	2.47E+11	2.99E+09	1.24E-02	8.80E-12
7	10.40	.15	1.15E+17	2.46E+11	3.04E+09	1.32E-02	8.80E-12
8	12.29	.18	9.13E+16	2.44E+11	2.71E+09	1.05E-02	8.81E-12
9	14.26	.21	4.51E+16	2.41E+11	1.91E+09	5.27E-03	8.83E-12
10	16.31	.24	1.43E+16	2.37E+11	1.07E+09	1.70E-03	8.85E-12
11	18.47	.27	3.47E+15	2.32E+11	5.29E+08	4.22E-04	8.85E-12
12	20.75	.31	7.69E+14	2.26E+11	2.49E+08	9.60E-05	8.85E-12
13	23.17	.34	1.44E+14	2.18E+11	1.25E+08	2.51E-05	8.85E-12
14	25.75	.38	8.39E+13	2.10E+11	8.22E+07	1.13E-05	8.85E-12
15	28.53	.42	8.55E+13	2.01E+11	8.30E+07	1.20E-05	8.85E-12
16	31.53	.47	2.64E+14	1.91E+11	1.46E+08	3.69E-05	8.85E-12
17	34.80	.51	4.04E+14	1.81E+11	1.80E+08	6.26E-05	8.85E-12
18	38.38	.57	4.91E+14	1.71E+11	1.99E+08	8.16E-05	8.85E-12
19	42.34	.62	5.28E+14	1.61E+11	2.06E+08	9.26E-05	8.85E-12
20	46.73	.69	5.23E+14	1.51E+11	2.05E+08	9.75E-05	8.85E-12
21	51.64	.76	4.93E+14	1.42E+11	1.97E+08	9.50E-05	8.85E-12
22	57.12	.84	4.17E+14	1.34E+11	1.83E+08	8.73E-05	8.85E-12
23	63.24	.93	3.35E+14	1.27E+11	1.64E+08	7.46E-05	8.85E-12
24	70.04	1.03	2.48E+14	1.21E+11	1.42E+08	5.80E-05	8.85E-12
25	77.47	1.14	1.66E+14	1.16E+11	1.16E+08	4.04E-05	8.85E-12
26	85.43	1.26	9.70E+13	1.13E+11	8.84E+07	2.42E-05	8.85E-12
27	93.78	1.38	4.29E+13	1.10E+11	5.88E+07	1.10E-05	8.85E-12

MAXIMUM CONDUCTIVITY = 1.32E-02 (MHOS/M)

#POINT1#	NOZZLE RADIUS	#ROCKET	REGEYE	FREQUENCY
# 4.24 #	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
# (M) #	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

# RADIAL INDEX #	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	6.74E+16	2.47E+11	2.33E+09	7.70E-03	8.82E-12
2	1.71	.03	6.91E+16	2.47E+11	2.36E+09	7.89E-03	8.82E-12
3	3.42	.05	7.33E+16	2.47E+11	2.44E+09	8.43E-03	8.82E-12
4	5.16	.08	8.11E+16	2.47E+11	2.56E+09	9.26E-03	8.82E-12
5	6.92	.10	8.92E+16	2.47E+11	2.68E+09	1.02E-02	8.81E-12
6	8.72	.13	9.48E+16	2.46E+11	2.77E+09	1.09E-02	8.81E-12
7	10.57	.16	8.70E+16	2.45E+11	2.65E+09	1.00E-02	8.81E-12
8	12.48	.19	5.86E+16	2.41E+11	2.17E+09	8.81E-03	8.83E-12
9	14.46	.21	2.62E+16	2.40E+11	1.45E+09	3.06E-03	8.84E-12
10	16.52	.24	8.29E+15	2.36E+11	8.18E+08	9.91E-04	8.85E-12
11	18.68	.28	2.14E+15	2.31E+11	4.15E+08	2.61E-04	8.85E-12
12	20.95	.31	5.11E+14	2.29E+11	2.03E+08	6.40E-05	8.85E-12
13	23.34	.34	1.54E+14	2.19E+11	1.04E+08	1.73E-05	8.85E-12
14	25.89	.38	5.40E+13	2.11E+11	6.60E+07	7.21E-06	8.85E-12
15	28.61	.42	5.23E+13	2.03E+11	6.49E+07	7.28E-06	8.85E-12
16	31.53	.47	1.60E+14	1.94E+11	1.14E+08	2.33E-05	8.85E-12
17	34.69	.51	2.76E+14	1.94E+11	1.44E+08	3.91E-05	8.85E-12
18	38.13	.56	3.81E+14	1.75E+11	1.63E+08	5.33E-05	8.85E-12
19	41.89	.62	3.80E+14	1.65E+11	1.75E+08	6.47E-05	8.85E-12
20	46.03	.68	4.00E+14	1.56E+11	1.80E+08	7.23E-05	8.85E-12
21	50.60	.75	3.93E+14	1.47E+11	1.78E+08	7.52E-05	8.85E-12
22	55.67	.82	3.51E+14	1.39E+11	1.71E+08	7.32E-05	8.85E-12
23	61.30	.90	3.12E+14	1.32E+11	1.59E+08	6.68E-05	8.85E-12
24	67.53	1.00	2.52E+14	1.25E+11	1.43E+08	5.67E-05	8.85E-12
25	74.37	1.10	1.89E+14	1.20E+11	1.24E+08	4.44E-05	8.85E-12
26	81.79	1.21	1.30E+14	1.16E+11	1.02E+08	3.16E-05	8.85E-12
27	89.69	1.32	7.84E+13	1.13E+11	7.95E+07	1.96E-05	8.85E-12
28	97.95	1.45	3.50E+13	1.10E+11	5.39E+07	9.18E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 1.09E-02 (MHOS/M)

POINT 19	NOZZLE RADIUS	ROCKET POSITION	REDEYE : 5000(FT)/10(FT/S)	FREQUENCY
4.55 (M)	1.48E-02 (M)	PRESSURE	: 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.28E+16	2.47E+11	2.42E+09	8.32E-03	8.82E-12
2	1.74	.03	7.38E+16	2.47E+11	2.44E+09	8.43E-03	8.82E-12
3	3.49	.05	7.63E+16	2.46E+11	2.49E+09	8.72E-03	8.82E-12
4	5.25	.08	7.97E+16	2.46E+11	2.53E+09	9.12E-03	8.82E-12
5	7.04	.10	8.19E+16	2.46E+11	2.57E+09	9.39E-03	8.82E-12
6	8.87	.13	7.75E+16	2.45E+11	2.50E+09	8.93E-03	8.82E-12
7	10.74	.16	6.10E+16	2.43E+11	2.22E+09	7.06E-03	8.83E-12
8	12.67	.19	3.55E+16	2.41E+11	1.69E+09	4.15E-03	8.84E-12
9	14.66	.22	1.48E+16	2.38E+11	1.09E+09	1.75E-03	8.85E-12
10	16.73	.25	4.77E+15	2.35E+11	6.20E+08	5.73E-04	8.85E-12
11	18.89	.28	1.32E+15	2.30E+11	3.26E+08	1.61E-04	8.85E-12
12	21.15	.31	3.45E+14	2.25E+11	1.67E+08	4.32E-05	8.85E-12
13	23.53	.35	9.74E+13	2.13E+11	8.96E+07	1.26E-05	8.85E-12
14	26.05	.38	3.94E+13	2.11E+11	5.64E+07	5.26E-06	8.85E-12
15	28.73	.42	3.73E+13	2.04E+11	5.48E+07	5.15E-06	8.85E-12
16	31.59	.47	1.14E+14	1.93E+11	9.58E+07	1.64E-05	8.85E-12
17	34.67	.51	1.84E+14	1.87E+11	1.22E+08	2.77E-05	8.85E-12
18	37.99	.56	2.42E+14	1.78E+11	1.40E+08	3.84E-05	8.85E-12
19	41.60	.61	2.85E+14	1.69E+11	1.52E+08	4.75E-05	8.85E-12
20	45.54	.67	3.10E+14	1.60E+11	1.58E+08	5.45E-05	8.85E-12
21	49.87	.74	3.16E+14	1.52E+11	1.60E+08	5.87E-05	8.85E-12
22	54.64	.81	3.04E+14	1.44E+11	1.56E+08	5.96E-05	8.85E-12
23	59.88	.88	2.76E+14	1.36E+11	1.49E+08	5.72E-05	8.85E-12
24	65.66	.97	2.37E+14	1.30E+11	1.38E+08	5.16E-05	8.85E-12
25	72.02	1.06	1.92E+14	1.24E+11	1.24E+08	4.37E-05	8.85E-12
26	78.93	1.16	1.45E+14	1.19E+11	1.08E+08	3.43E-05	8.85E-12
27	86.37	1.27	1.01E+14	1.15E+11	9.02E+07	2.46E-05	8.85E-12
28	94.24	1.39	6.20E+13	1.13E+11	7.07E+07	1.55E-05	8.85E-12
29	102.45	1.51	2.92E+13	1.10E+11	4.85E+07	7.45E-06	8.85E-12
30	110.89	1.64	4.19E+12	1.09E+11	1.84E+07	1.09E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 9.39E-03 (MHOS/M)

POINT20	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
4.85	1.49E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.29E+16	2.46E+11	2.42E+09	8.34E-03	8.82E-12
2	1.77	.03	7.31E+16	2.46E+11	2.43E+09	8.37E-03	8.82E-12
3	3.55	.05	7.35E+16	2.46E+11	2.43E+09	8.43E-03	8.82E-12
4	5.34	.08	7.28E+16	2.45E+11	2.42E+09	8.37E-03	8.82E-12
5	7.16	.11	6.84E+16	2.44E+11	2.35E+09	7.88E-03	8.82E-12
6	9.01	.13	5.70E+16	2.43E+11	2.14E+09	6.61E-03	8.83E-12
7	10.91	.16	3.88E+16	2.42E+11	1.77E+09	4.53E-03	8.84E-12
8	12.85	.19	2.03E+16	2.40E+11	1.28E+09	2.37E-03	8.84E-12
9	14.86	.22	8.19E+15	2.37E+11	8.13E+08	9.7[illegible]-04	8.85E-12
10	16.94	.25	2.74E+15	2.33E+11	4.70E+08	3.31E-04	8.85E-12
11	19.11	.28	8.19E+14	2.29E+11	2.57E+08	1.01E-04	8.85E-12
12	21.37	.32	2.36E+14	2.24E+11	1.38E+08	2.97E-05	8.85E-12
13	23.74	.35	7.27E+13	2.18E+11	7.65E+07	9.39E-06	8.85E-12
14	26.24	.39	3.05E+13	2.12E+11	4.36E+07	4.06E-06	8.85E-12
15	29.89	.43	2.85E+13	2.04E+11	4.79E+07	3.92E-06	8.85E-12
16	31.70	.47	8.65E+13	1.97E+11	9.35E+07	1.24E-05	8.85E-12
17	34.71	.51	1.40E+14	1.89E+11	1.06E+08	2.09E-05	8.85E-12
18	37.95	.56	1.97E+14	1.80E+11	1.23E+08	2.91E-05	8.85E-12
19	41.44	.61	2.23E+14	1.72E+11	1.34E+08	3.65E-05	8.85E-12
20	45.22	.67	2.47E+14	1.64E+11	1.41E+08	4.25E-05	8.85E-12
21	49.35	.73	2.57E+14	1.55E+11	1.44E+08	4.67E-05	8.85E-12
22	53.86	.79	2.55E+14	1.47E+11	1.43E+08	4.87E-05	8.85E-12
23	58.81	.87	2.40E+14	1.40E+11	1.39E+08	4.83E-05	8.85E-12
24	64.24	.95	2.16E+14	1.33E+11	1.32E+08	4.55E-05	8.85E-12
25	70.19	1.04	1.84E+14	1.29E+11	1.22E+08	4.06E-05	8.85E-12
26	76.68	1.13	1.48E+14	1.22E+11	1.09E+08	3.41E-05	8.85E-12
27	83.69	1.23	1.12E+14	1.14E+11	9.51E+07	2.67E-05	8.85E-12
28	91.13	1.34	7.94E+13	1.15E+11	7.95E+07	1.92E-05	8.85E-12
29	99.01	1.46	4.97E+13	1.12E+11	6.26E+07	1.22E-05	8.85E-12
30	107.18	1.58	2.40E+13	1.10E+11	4.40E+07	6.12E-06	8.85E-12
31	115.52	1.70	6.62E+12	1.09E+11	2.31E+07	1.71E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 8.43E-03 (MHOS/M)

POINT21	NOZZLE RADIUS	POCKET POSITION	REDEYE 5000(FT)/10(FT/S) PRESSURE 0.932 (ATMOSPHERES)	FREQUENCY
5.17 (M)	1.48E-02 (M)			2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	6.62E+16	2.45E+11	2.31E+09	7.61E-03	8.92E-12
2	1.80	.03	6.57E+16	2.45E+11	2.30E+09	7.56E-03	8.82E-12
3	3.61	.05	6.37E+16	2.45E+11	2.27E+09	7.34E-03	8.92E-12
4	5.43	.08	5.91E+16	2.44E+11	2.16E+09	6.82E-03	8.83E-12
5	7.27	.11	5.04E+16	2.43E+11	2.01E+09	5.84E-03	8.85E-12
6	9.15	.13	3.73E+16	2.42E+11	1.73E+09	4.34E-03	8.94E-12
7	11.07	.16	2.27E+16	2.40E+11	1.35E+09	2.66E-03	8.84E-12
8	13.04	.19	1.11E+16	2.38E+11	9.47E+08	1.32E-03	8.95E-12
9	15.06	.22	4.52E+15	2.35E+11	6.03E+08	5.41E-04	8.85E-12
10	17.15	.25	1.59E+15	2.32E+11	3.58E+08	1.94E-04	8.85E-12
11	19.32	.29	5.17E+14	2.28E+11	2.04E+08	6.40E-05	8.85E-12
12	21.59	.32	1.64E+14	2.25E+11	1.15E+08	2.07E-05	8.85E-12
13	23.95	.35	5.52E+13	2.17E+11	6.67E+07	7.15E-06	8.85E-12
14	26.44	.39	2.43E+13	2.11E+11	4.43E+07	3.24E-06	8.85E-12
15	29.06	.43	2.27E+13	2.05E+11	4.28E+07	3.12E-06	8.85E-12
16	31.84	.47	6.86E+13	1.98E+11	7.44E+07	9.78E-06	8.85E-12
17	34.80	.51	1.12E+14	1.90E+11	9.48E+07	1.65E-05	8.95E-12
18	37.96	.56	1.49E+14	1.82E+11	1.10E+08	2.31E-05	8.95E-12
19	41.36	.61	1.80E+14	1.74E+11	1.20E+08	2.90E-05	8.85E-12
20	45.02	.66	2.02E+14	1.66E+11	1.27E+08	3.41E-05	8.85E-12
21	49.00	.72	2.14E+14	1.58E+11	1.31E+08	3.80E-05	8.85E-12
22	53.31	.79	2.16E+14	1.51E+11	1.32E+08	4.04E-05	8.85E-12
23	58.02	.86	2.08E+14	1.44E+11	1.30E+08	4.10E-05	8.85E-12
24	63.17	.93	1.93E+14	1.37E+11	1.25E+08	3.98E-05	8.85E-12
25	68.79	1.01	1.71E+14	1.31E+11	1.17E+08	3.68E-05	8.85E-12
26	74.90	1.10	1.44E+14	1.26E+11	1.05E+08	3.24E-05	8.85E-12
27	81.52	1.20	1.16E+14	1.21E+11	9.65E+07	2.69E-05	8.95E-12
28	88.61	1.31	8.72E+13	1.17E+11	8.39E+07	2.09E-05	8.85E-12
29	96.14	1.42	6.10E+13	1.14E+11	7.01E+07	1.50E-05	8.85E-12
30	104.00	1.53	3.90E+13	1.12E+11	5.54E+07	9.57E-06	8.95E-12
31	112.13	1.65	1.90E+13	1.10E+11	3.92E+07	4.87E-06	8.85E-12
32	120.41	1.78	5.81E+12	1.09E+11	2.16E+07	1.50E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 7.61E-03 (MHOS/M)

POINT 27	NOZZLE RADIUS	POCKET	PEDEVE	FREQUENCY
5.47	1.43E-02	POSITION :	5000(FT)/10(FT/S)	2.50E+09
(M)	(M)	PRESSURE :	0.932 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	5.23E+16	2.44E+11	2.05E+09	6.05E-03	8.83E-12
2	1.83	.03	5.12E+16	2.44E+11	2.03E+09	5.93E-03	8.83E-12
3	3.66	.05	4.77E+16	2.43E+11	1.96E+09	5.53E-03	8.83E-12
4	5.51	.08	4.13E+16	2.43E+11	1.83E+09	4.80E-03	8.83E-12
5	7.39	.11	3.22E+16	2.42E+11	1.61E+09	3.76E-03	8.84E-12
6	9.29	.14	2.18E+16	2.40E+11	1.32E+09	2.55E-03	8.84E-12
7	11.23	.17	1.24E+16	2.39E+11	9.99E+08	1.46E-03	8.85E-12
8	13.22	.19	5.37E+15	2.36E+11	6.94E+08	7.11E-04	8.85E-12
9	15.26	.23	2.49E+15	2.34E+11	4.48E+08	3.00E-04	8.85E-12
10	17.36	.26	9.37E+14	2.30E+11	2.75E+08	1.15E-04	8.85E-12
11	19.54	.29	3.32E+14	2.26E+11	1.64E+08	4.13E-05	8.85E-12
12	21.81	.32	1.16E+14	2.22E+11	9.65E+07	1.47E-05	8.85E-12
13	24.18	.36	4.24E+13	2.17E+11	5.95E+07	5.51E-06	8.85E-12
14	26.65	.39	1.57E+13	2.11E+11	3.98E+07	2.63E-06	8.85E-12
15	29.26	.43	1.66E+13	2.05E+11	3.87E+07	2.56E-06	8.85E-12
16	32.01	.47	5.60E+13	1.98E+11	6.72E+07	7.96E-06	8.85E-12
17	34.92	.52	9.11E+13	1.91E+11	8.57E+07	1.34E-05	8.85E-12
18	38.03	.56	1.22E+14	1.84E+11	9.93E+07	1.88E-05	8.85E-12
19	41.35	.61	1.46E+14	1.76E+11	1.09E+08	2.37E-05	8.85E-12
20	44.91	.66	1.63E+14	1.68E+11	1.16E+08	2.80E-05	8.85E-12
21	48.76	.72	1.80E+14	1.61E+11	1.20E+08	3.15E-05	8.85E-12
22	52.92	.79	1.85E+14	1.54E+11	1.22E+08	3.39E-05	8.85E-12
23	57.43	.85	1.92E+14	1.47E+11	1.21E+08	3.50E-05	8.85E-12
24	62.34	.92	1.72E+14	1.40E+11	1.10E+08	3.47E-05	8.85E-12
25	67.67	1.00	1.57E+14	1.34E+11	1.12E+08	3.30E-05	8.85E-12
26	73.47	1.08	1.37E+14	1.29E+11	1.05E+08	3.01E-05	8.85E-12
27	79.75	1.18	1.15E+14	1.24E+11	9.61E+07	2.61E-05	8.85E-12
28	86.50	1.28	9.11E+13	1.20E+11	8.57E+07	2.14E-05	8.85E-12
29	93.68	1.38	6.85E+13	1.16E+11	7.43E+07	1.66E-05	8.85E-12
30	101.25	1.49	4.78E+13	1.14E+11	6.21E+07	1.18E-05	8.85E-12
31	109.13	1.61	2.98E+13	1.12E+11	4.90E+07	7.52E-06	8.85E-12
32	117.23	1.73	1.49E+13	1.10E+11	3.46E+07	3.81E-06	8.85E-12
33	125.45	1.85	4.46E+12	1.09E+11	1.90E+07	1.15E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 6.05E-03 (MHOS/M)

POINT 23	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
5.78 (M)	1.48E-02 (M)	POSITION : PRESSURE :	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	3.53E+16	2.42E+11	1.69E+09	4.11E-03	8.84E-12
2	1.86	.03	3.41E+16	2.42E+11	1.66E+09	3.97E-03	8.84E-12
3	3.72	.05	3.06E+16	2.42E+11	1.57E+09	3.57E-03	8.84E-12
4	5.60	.08	2.51E+16	2.41E+11	1.42E+09	2.93E-03	8.84E-12
5	7.50	.11	1.84E+16	2.40E+11	1.22E+09	2.16E-03	8.85E-12
6	9.42	.14	1.19E+16	2.39E+11	9.74E+08	1.39E-03	8.85E-12
7	11.39	.17	6.56E+15	2.37E+11	7.27E+08	7.80E-04	8.85E-12
8	13.39	.20	3.20E+15	2.35E+11	5.09E+08	3.84E-04	8.85E-12
9	15.45	.23	1.40E+15	2.32E+11	3.56E+08	1.70E-04	8.85E-12
10	17.57	.26	5.66E+14	2.29E+11	2.14E+08	6.97E-05	8.85E-12
11	19.77	.29	2.18E+14	2.25E+11	1.32E+08	2.72E-05	8.85E-12
12	22.04	.33	8.24E+13	2.21E+11	8.15E+07	1.05E-05	8.85E-12
13	24.40	.36	3.23E+13	2.16E+11	5.10E+07	4.21E-06	8.85E-12
14	26.88	.40	1.46E+13	2.11E+11	3.43E+07	1.95E-06	8.85E-12
15	29.47	.43	9.72E+12	2.05E+11	2.80E+07	1.34E-06	8.85E-12
16	32.20	.47	1.35E+13	1.99E+11	3.30E+07	1.92E-06	8.85E-12
17	35.08	.52	5.30E+13	1.92E+11	6.54E+07	7.78E-06	8.85E-12
18	38.14	.56	8.93E+13	1.85E+11	8.44E+07	1.35E-05	8.85E-12
19	41.39	.61	1.17E+14	1.79E+11	9.72E+07	1.86E-05	8.85E-12
20	44.86	.66	1.34E+14	1.71E+11	1.06E+08	2.29E-05	8.85E-12
21	48.61	.72	1.52E+14	1.63E+11	1.11E+08	2.63E-05	8.85E-12
22	52.64	.78	1.59E+14	1.56E+11	1.13E+08	2.87E-05	8.85E-12
23	56.99	.84	1.60E+14	1.49E+11	1.13E+08	3.01E-05	8.85E-12
24	61.70	.91	1.54E+14	1.43E+11	1.11E+08	3.04E-05	8.85E-12
25	65.80	.99	1.43E+14	1.37E+11	1.07E+08	2.95E-05	8.85E-12
26	72.34	1.07	1.29E+14	1.31E+11	1.02E+08	2.76E-05	8.85E-12
27	78.32	1.15	1.11E+14	1.20E+11	9.45E+07	2.47E-05	8.85E-12
28	84.75	1.25	9.17E+13	1.22E+11	8.60E+07	2.12E-05	8.85E-12
29	91.63	1.35	7.24E+13	1.13E+11	7.64E+07	1.72E-05	8.85E-12
30	98.90	1.46	5.41E+13	1.16E+11	6.60E+07	1.32E-05	8.85E-12
31	106.51	1.57	3.76E+13	1.13E+11	5.50E+07	8.36E-06	8.85E-12
32	114.39	1.69	2.33E+13	1.11E+11	4.33E+07	5.40E-06	8.85E-12
33	122.47	1.81	1.13E+13	1.10E+11	3.01E+07	2.89E-06	8.85E-12
34	130.67	1.93	2.42E+12	1.09E+11	1.40E+07	5.26E-07	8.85E-12

MAXIMUM CONDUCTIVITY = 4.11E-03 (MHOS/M)

#POINT24#	NOZZLE RADIUS	#ROCKET	REDEYE	#	FREQUENCY	#
# 6.09 #	1.48E-02	#POSITION :	5000(FT)/10(FT/S)	#	2.50E+08	#
# (M) #	(M)	#PRESSURE :	0.832 (ATMOSPHERES	#	(HZ)	#

# RADIAL INDEX #	RELATIVE RADIUS *	ABSOLUTE RADIUS (M) #	ELECTRON DENSITY (1/M3) *	COLLISION FREQUENCY (1/S) #	PLASMA FREQUENCY (1/S) #	SIGMA (MHO/M) *	EPSILON (FD/M) #
# 1 #	0.00 *	0.00 #	2.07E+16*	2.41E+11#	1.29E+09#	2.42E-03*	8.84E-12#
# 2 #	1.99 *	.03 #	1.99E+16*	2.40E+11#	1.26E+09#	2.32E-03*	8.84E-12#
# 3 #	3.77 *	.06 #	1.73E+16*	2.40E+11#	1.18E+09#	2.04E-03*	8.85E-12#
# 4 #	5.68 *	.09 #	1.33E+16*	2.39E+11#	1.05E+09#	1.62E-03*	8.85E-12#
# 5 #	7.60 *	.11 #	9.77E+15*	2.38E+11#	8.87E+08#	1.15E-03*	8.85E-12#
# 6 #	9.55 *	.14 #	6.17E+15*	2.37E+11#	7.05E+08#	7.33E-04*	8.85E-12#
# 7 #	11.54 *	.17 #	3.46E+15*	2.35E+11#	5.28E+08#	4.15E-04*	8.85E-12#
# 8 #	13.57 *	.20 #	1.75E+15*	2.33E+11#	3.76E+08#	2.12E-04*	8.85E-12#
# 9 #	15.65 *	.23 #	8.10E+14*	2.31E+11#	2.56E+08#	9.90E-05*	8.35E-12#
# 10 #	17.78 *	.26 #	3.51E+14*	2.27E+11#	1.68E+08#	4.35E-05*	8.85E-12#
# 11 #	19.93 *	.29 #	1.46E+14*	2.24E+11#	1.08E+08#	1.84E-05*	8.85E-12#
# 12 #	22.27 *	.33 #	5.95E+13*	2.20E+11#	6.93E+07#	7.63E-06*	8.85E-12#
# 13 #	24.64 *	.36 #	2.48E+13*	2.15E+11#	4.47E+07#	3.25E-06*	8.85E-12#
# 14 #	27.11 *	.40 #	1.16E+13*	2.10E+11#	3.06E+07#	1.56E-06*	8.85E-12#
# 15 #	29.69 *	.44 #	7.64E+12*	2.05E+11#	2.48E+07#	1.05E-06*	8.85E-12#
# 16 #	32.40 *	.49 #	1.04E+13*	1.99E+11#	2.89E+07#	1.47E-06*	8.85E-12#
# 17 #	35.25 *	.52 #	4.04E+13*	1.92E+11#	5.71E+07#	5.93E-06*	8.85E-12#
# 18 #	38.27 *	.56 #	6.84E+13*	1.86E+11#	7.43E+07#	1.04E-05*	8.85E-12#
# 19 #	41.48 *	.61 #	9.29E+13*	1.79E+11#	8.65E+07#	1.46E-05*	8.85E-12#
# 20 #	44.99 *	.66 #	1.13E+14*	1.72E+11#	9.53E+07#	1.85E-05*	8.85E-12#
# 21 #	49.54 *	.72 #	1.27E+14*	1.65E+11#	1.01E+08#	2.17E-05*	8.85E-12#
# 22 #	52.46 *	.77 #	1.36E+14*	1.58E+11#	1.05E+08#	2.42E-05*	8.85E-12#
# 23 #	56.67 *	.84 #	1.39E+14*	1.52E+11#	1.06E+08#	2.58E-05*	8.85E-12#
# 24 #	61.22 *	.90 #	1.37E+14*	1.45E+11#	1.05E+08#	2.66E-05*	8.85E-12#
# 25 #	66.12 *	.98 #	1.30E+14*	1.39E+11#	1.02E+08#	2.63E-05*	8.85E-12#
# 26 #	71.43 *	1.05 #	1.19E+14*	1.34E+11#	9.81E+07#	2.51E-05*	8.85E-12#
# 27 #	77.15 *	1.14 #	1.06E+14*	1.29E+11#	9.23E+07#	2.31E-05*	8.85E-12#
# 28 #	83.31 *	1.23 #	9.02E+13*	1.24E+11#	8.53E+07#	2.04E-05*	8.85E-12#
# 29 #	89.89 *	1.33 #	7.39E+13*	1.21E+11#	7.72E+07#	1.73E-05*	8.85E-12#
# 30 #	96.89 *	1.43 #	5.78E+13*	1.17E+11#	6.93E+07#	1.39E-05*	8.85E-12#
# 31 #	104.24 *	1.54 #	4.29E+13*	1.15E+11#	5.99E+07#	1.05E-05*	8.85E-12#
# 32 #	111.90 *	1.65 #	2.96E+13*	1.13E+11#	4.89E+07#	7.41E-06*	8.85E-12#
# 33 #	119.78 *	1.77 #	1.83E+13*	1.11E+11#	3.84E+07#	4.64E-06*	8.85E-12#
# 34 #	127.83 *	1.89 #	8.58E+12*	1.10E+11#	2.63E+07#	2.21E-06*	8.85E-12#

MAXIMUM CONDUCTIVITY : 2.42E-03 (MHOS/M)

POINT 25	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
6.39	1.48E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.10E+16	2.39E+11	9.42E+08	1.30E-03	8.85E-12
2	1.31	.03	1.05E+16	2.39E+11	9.21E+08	1.24E-03	8.85E-12
3	3.83	.06	9.12E+15	2.38E+11	8.57E+08	1.08E-03	8.85E-12
4	5.76	.08	7.13E+15	2.38E+11	7.59E+08	9.48E-04	8.85E-12
5	7.71	.11	5.06E+15	2.37E+11	6.39E+08	6.03E-04	8.85E-12
6	9.68	.14	3.23E+15	2.35E+11	5.10E+08	3.86E-04	8.85E-12
7	11.69	.17	1.86E+15	2.34E+11	3.97E+08	2.25E-04	8.85E-12
8	13.74	.20	9.84E+14	2.31E+11	2.92E+08	1.20E-04	8.85E-12
9	15.84	.23	4.83E+14	2.29E+11	1.97E+08	5.94E-05	8.85E-12
10	17.99	.27	2.24E+14	2.26E+11	1.34E+08	2.79E-05	8.85E-12
11	20.21	.30	9.94E+13	2.22E+11	9.97E+07	1.26E-05	8.85E-12
12	22.50	.33	4.36E+13	2.19E+11	5.93E+07	5.62E-06	8.85E-12
13	24.87	.37	1.93E+13	2.14E+11	3.95E+07	2.54E-06	8.85E-12
14	27.34	.40	9.43E+12	2.09E+11	2.76E+07	1.27E-06	8.85E-12
15	29.92	.44	6.30E+12	2.04E+11	2.25E+07	8.69E-07	8.85E-12
16	32.61	.48	8.51E+12	1.99E+11	2.62E+07	1.21E-06	8.85E-12
17	35.45	.52	3.30E+13	1.93E+11	5.16E+07	4.63E-06	8.85E-12
18	38.44	.57	5.61E+13	1.86E+11	6.72E+07	8.46E-06	8.85E-12
19	41.60	.61	7.67E+13	1.80E+11	7.86E+07	1.20E-05	8.85E-12
20	44.95	.66	9.41E+13	1.73E+11	8.71E+07	1.53E-05	8.85E-12
21	48.53	.72	1.09E+14	1.67E+11	9.31E+07	1.82E-05	8.85E-12
22	52.35	.77	1.17E+14	1.60E+11	9.73E+07	2.05E-05	8.85E-12
23	56.45	.83	.21E+14	1.54E+11	9.89E+07	2.22E-05	8.85E-12
24	60.85	.90	1.21E+14	1.48E+11	9.89E+07	2.32E-05	8.85E-12
25	65.59	.97	1.18E+14	1.42E+11	9.73E+07	2.34E-05	8.85E-12
26	70.70	1.04	1.10E+14	1.36E+11	9.42E+07	2.26E-05	8.85E-12
27	76.20	1.12	9.96E+13	1.31E+11	8.96E+07	2.14E-05	8.85E-12
28	82.11	1.21	8.72E+13	1.27E+11	8.38E+07	1.94E-05	8.85E-12
29	88.43	1.30	7.36E+13	1.23E+11	7.70E+07	1.69E-05	8.85E-12
30	95.16	1.40	5.97E+13	1.19E+11	6.94E+07	1.41E-05	8.85E-12
31	102.27	1.51	4.64E+13	1.16E+11	6.11E+07	1.12E-05	8.85E-12
32	109.70	1.62	3.41E+13	1.14E+11	5.24E+07	8.43E-06	8.85E-12
33	117.39	1.71	2.34E+13	1.12E+11	4.34E+07	5.87E-06	8.85E-12
34	125.26	1.85	1.43E+13	1.11E+11	3.39E+07	3.64E-06	8.85E-12
35	133.29	1.97	6.67E+12	1.09E+11	2.52E+07	1.72E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 1.30E-03 (MHOS/M)

POINT26	NOZZLE RADIUS	ROCKET POSITION	REDEYE : 5000(FT)/10(FT/S)	FREQUENCY
6.70 (M)	1.48E-02 (M)	PRESSURE	: 0.832 (ATMOSPHERES)	2.50E+09 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	5.65E+15	2.37E+11	6.75E+09	6.72E-04	8.85E-12
2	1.94	.03	5.39E+15	2.37E+11	6.59E+09	6.41E-04	8.85E-12
3	3.86	.06	4.68E+15	2.37E+11	6.14E+09	5.57E-04	8.85E-12
4	5.84	.09	3.69E+15	2.36E+11	5.45E+09	4.40E-04	8.85E-12
5	7.81	.12	2.64E+15	2.35E+11	4.61E+09	3.17E-04	8.85E-12
6	9.81	.14	1.72E+15	2.34E+11	3.73E+09	2.08E-04	8.85E-12
7	11.84	.17	1.03E+15	2.32E+11	2.89E+09	1.25E-04	8.85E-12
8	13.91	.21	5.71E+14	2.30E+11	2.15E+09	7.01E-05	8.85E-12
9	16.03	.24	2.97E+14	2.27E+11	1.55E+09	3.68E-05	8.85E-12
10	18.20	.27	1.46E+14	2.24E+11	1.09E+09	1.84E-05	8.85E-12
11	20.43	.30	6.95E+13	2.21E+11	7.48E+07	8.35E-06	8.85E-12
12	22.73	.34	3.23E+13	2.17E+11	5.10E+07	4.18E-06	8.85E-12
13	25.11	.37	1.51E+13	2.13E+11	3.49E+07	2.00E-06	8.85E-12
14	27.58	.41	7.74E+12	2.09E+11	2.50E+07	1.05E-06	8.85E-12
15	30.15	.44	5.29E+12	2.04E+11	2.06E+07	7.32E-07	8.85E-12
16	32.84	.48	7.16E+12	1.98E+11	2.40E+07	1.02E-06	8.85E-12
17	35.66	.53	2.78E+13	1.93E+11	4.73E+07	4.06E-06	8.85E-12
18	38.62	.57	4.73E+13	1.87E+11	6.17E+07	7.13E-06	8.85E-12
19	41.75	.62	6.49E+13	1.81E+11	7.23E+07	1.01E-05	8.85E-12
20	45.05	.66	8.01E+13	1.74E+11	8.04E+07	1.29E-05	8.85E-12
21	48.57	.72	9.23E+13	1.68E+11	8.62E+07	1.55E-05	8.85E-12
22	52.31	.77	1.01E+14	1.62E+11	9.03E+07	1.76E-05	8.85E-12
23	56.31	.83	1.06E+14	1.56E+11	9.26E+07	1.92E-05	8.85E-12
24	60.59	.89	1.08E+14	1.50E+11	9.32E+07	2.03E-05	8.85E-12
25	65.16	.96	1.06E+14	1.44E+11	9.24E+07	2.08E-05	8.85E-12
26	70.12	1.03	1.01E+14	1.38E+11	9.01E+07	2.05E-05	8.85E-12
27	75.42	1.11	9.31E+13	1.33E+11	8.66E+07	1.97E-05	8.85E-12
28	81.11	1.20	8.33E+13	1.29E+11	8.19E+07	1.82E-05	8.85E-12
29	87.20	1.29	7.21E+13	1.25E+11	7.62E+07	1.63E-05	8.85E-12
30	93.69	1.38	6.03E+13	1.21E+11	6.97E+07	1.40E-05	8.85E-12
31	100.55	1.48	4.85E+13	1.18E+11	6.25E+07	1.16E-05	8.85E-12
32	107.75	1.59	3.73E+13	1.15E+11	5.48E+07	9.10E-06	8.85E-12
33	115.25	1.70	2.71E+13	1.13E+11	4.58E+07	6.75E-06	8.85E-12
34	122.97	1.81	1.84E+13	1.12E+11	3.85E+07	4.64E-06	8.85E-12
35	130.86	1.93	1.11E+13	1.10E+11	2.99E+07	2.84E-06	8.85E-12
36	138.84	2.05	5.14E+12	1.09E+11	2.04E+07	1.32E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 6.72E-04 (MHOS/M)

POINT27	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
7.00 (M)	1.49E-02 (M)	POSITION + PRESSURE	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	2.40E+15	2.35E+11	4.34E+08	3.48E-04	8.85E-12
2	1.96	.03	2.78E+15	2.35E+11	4.73E+08	3.33E-04	8.85E-12
3	3.93	.06	2.42E+15	2.35E+11	4.42E+08	2.91E-04	8.85E-12
4	5.92	.09	1.93E+15	2.34E+11	3.95E+08	2.33E-04	8.85E-12
5	7.91	.12	1.41E+15	2.33E+11	3.37E+08	1.71E-04	8.85E-12
6	9.94	.15	9.49E+14	2.32E+11	2.77E+08	1.15E-04	8.85E-12
7	11.99	.18	5.90E+14	2.30E+11	2.18E+08	7.23E-05	8.85E-12
8	14.08	.21	3.43E+14	2.28E+11	1.66E+08	4.24E-05	8.85E-12
9	16.22	.24	1.88E+14	2.26E+11	1.23E+08	2.34E-05	8.85E-12
10	18.40	.27	9.78E+13	2.23E+11	8.88E+07	1.24E-05	8.85E-12
11	20.65	.30	4.91E+13	2.20E+11	6.29E+07	6.30E-06	8.85E-12
12	22.96	.34	2.41E+13	2.16E+11	4.41E+07	3.14E-06	8.85E-12
13	25.35	.37	1.19E+13	2.12E+11	3.10E+07	1.58E-06	8.85E-12
14	27.82	.41	6.3?E+12	2.09E+11	2.27E+07	8.65E-07	8.85E-12
15	30.40	.45	4.48E+12	2.03E+11	1.90E+07	6.22E-07	8.85E-12
16	33.09	.49	6.11E+12	1.98E+11	2.22E+07	8.70E-07	8.85E-12
17	35.88	.53	2.38E+13	1.93E+11	4.38E+07	3.48E-06	8.85E-12
18	38.82	.57	4.05E+13	1.87E+11	5.72E+07	6.11E-06	8.85E-12
19	41.92	.62	5.58E+13	1.81E+11	6.71E+07	8.68E-06	8.85E-12
20	45.19	.67	6.42E+13	1.75E+11	7.47E+07	1.11E-05	8.85E-12
21	48.64	.72	8.02E+13	1.69E+11	8.04E+07	1.33E-05	8.85E-12
22	52.32	.77	8.84E+13	1.63E+11	8.44E+07	1.53E-05	8.85E-12
23	56.23	.83	9.39E+13	1.57E+11	8.69E+07	1.66E-05	8.85E-12
24	60.41	.89	9.61E+13	1.51E+11	8.90E+07	1.79E-05	8.85E-12
25	64.87	.96	9.55E+13	1.46E+11	8.78E+07	1.85E-05	8.85E-12
26	69.66	1.03	9.22E+13	1.40E+11	8.62E+07	1.85E-05	8.85E-12
27	74.79	1.10	8.65E+13	1.35E+11	8.35E+07	1.80E-05	8.85E-12
28	80.29	1.18	7.88E+13	1.31E+11	7.97E+07	1.70E-05	8.85E-12
29	86.17	1.27	6.97E+13	1.26E+11	7.50E+07	1.55E-05	8.85E-12
30	92.44	1.36	5.97E+13	1.23E+11	6.94E+07	1.37E-05	8.85E-12
31	99.06	1.46	4.94E+13	1.19E+11	6.31E+07	1.17E-05	8.85E-12
32	106.04	1.56	3.94E+13	1.17E+11	5.64E+07	9.50E-06	8.85E-12
33	113.33	1.67	3.00E+13	1.14E+11	4.92E+07	7.3?E-06	8.85E-12
34	120.88	1.78	2.16E+13	1.13E+11	4.17E+07	5.40E-06	8.85E-12
35	128.63	1.90	1.44E+13	1.11E+11	3.41E+07	3.65E-06	8.85E-12
36	136.51	2.01	8.53E+12	1.10E+11	2.62E+07	2.18E-06	8.85E-12
37	144.47	2.13	3.97E+12	1.09E+11	1.77E+07	9.97E-07	8.85E-12

MAXIMUM CONDUCTIVITY = 3.48E-04 (MHOS/M)

POINT 28	NOZZLE RADIUS	POCKET	REDEYE	FREQUENCY
7.31	1.40E-02	POSITION :	5000(FT)/10(FT/S)	2.50E+00
(M)	(M)	PRESSURE :	0.032 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.54E+15	2.33E+11	3.52E+08	1.86E-04	8.85E-12
2	1.99	.03	1.48E+15	2.33E+11	3.45E+08	1.78E-04	8.85E-12
3	3.99	.06	1.30E+15	2.33E+11	3.24E+08	1.57E-04	8.85E-12
4	5.99	.09	1.05E+15	2.32E+11	2.91E+08	1.26E-04	8.85E-12
5	8.01	.12	7.87E+14	2.31E+11	2.52E+08	9.59E-05	8.85E-12
6	10.06	.15	5.45E+14	2.30E+11	2.10E+08	6.68E-05	8.85E-12
7	12.14	.18	3.52E+14	2.28E+11	1.68E+08	4.34E-05	8.85E-12
8	14.25	.21	2.13E+14	2.26E+11	1.31E+08	2.66E-05	8.85E-12
9	16.40	.24	1.22E+14	2.24E+11	9.93E+07	1.54E-05	8.85E-12
10	18.61	.27	6.70E+13	2.21E+11	7.35E+07	9.53E-06	8.85E-12
11	20.87	.31	3.53E+13	2.18E+11	5.34E+07	4.56E-06	8.85E-12
12	23.19	.34	1.82E+13	2.15E+11	3.83E+07	2.39E-06	8.85E-12
13	25.59	.38	9.45E+12	2.11E+11	2.76E+07	1.26E-06	8.85E-12
14	28.07	.41	5.34E+12	2.07E+11	2.07E+07	7.27E-07	8.85E-12
15	30.64	.45	4.37E+12	2.02E+11	1.88E+07	6.08E-07	8.85E-12
16	33.32	.49	1.03E+13	1.98E+11	2.38E+07	1.47E-06	8.85E-12
17	36.11	.53	2.17E+13	1.92E+11	4.18E+07	3.16E-06	8.85E-12
18	39.03	.58	3.54E+13	1.87E+11	5.34E+07	5.33E-06	8.85E-12
19	42.10	.62	4.87E+13	1.82E+11	6.27E+07	7.56E-06	8.85E-12
20	45.34	.67	6.06E+13	1.76E+11	6.99E+07	9.70E-06	8.85E-12
21	48.75	.72	7.05E+13	1.70E+11	7.54E+07	1.17E-05	8.85E-12
22	52.36	.77	7.81E+13	1.64E+11	7.94E+07	1.34E-05	8.85E-12
23	56.20	.83	8.34E+13	1.58E+11	8.20E+07	1.48E-05	8.85E-12
24	60.29	.89	8.62E+13	1.53E+11	8.34E+07	1.59E-05	8.85E-12
25	64.65	.95	8.65E+13	1.47E+11	8.35E+07	1.66E-05	8.85E-12
26	69.31	1.02	8.45E+13	1.42E+11	8.25E+07	1.68E-05	8.85E-12
27	74.29	1.10	8.03E+13	1.37E+11	8.04E+07	1.65E-05	8.85E-12
28	79.62	1.17	7.43E+13	1.32E+11	7.74E+07	1.58E-05	8.85E-12
29	85.30	1.26	6.68E+13	1.28E+11	7.34E+07	1.47E-05	8.85E-12
30	91.36	1.35	5.84E+13	1.24E+11	6.86E+07	1.32E-05	8.85E-12
31	97.78	1.44	4.95E+13	1.21E+11	6.32E+07	1.15E-05	8.85E-12
32	104.55	1.54	4.06E+13	1.18E+11	5.72E+07	9.68E-06	8.85E-12
33	111.65	1.65	3.21E+13	1.16E+11	5.08E+07	7.80E-06	8.85E-12
34	119.02	1.76	2.42E+13	1.14E+11	4.41E+07	5.99E-06	8.85E-12
35	126.61	1.87	1.71E+13	1.12E+11	3.72E+07	4.31E-06	8.85E-12
36	134.38	1.98	1.11E+13	1.11E+11	3.00E+07	2.83E-06	8.85E-12
37	142.27	2.10	6.30E+12	1.10E+11	2.25E+07	1.62E-06	8.85E-12
38	150.20	2.22	2.69E+12	1.09E+11	1.47E+07	6.95E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 1.86E-04 (MHOS/M)

POINT 29	NOZZLE RADIUS	POCKET	REDEYE	FREQUENCY
7.62	1.49E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.932 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISIONS FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	8.45E+14	2.32E+11	2.61E+08	1.03E-04	8.85E-12
2	2.02	.03	8.13E+14	2.31E+11	2.56E+08	9.89E-05	8.85E-12
3	4.03	.06	7.22E+14	2.31E+11	2.41E+08	8.91E-05	8.85E-12
4	6.07	.09	5.94E+14	2.30E+11	2.19E+08	7.27E-05	8.85E-12
5	8.11	.12	4.54E+14	2.29E+11	1.91E+08	5.56E-05	8.85E-12
6	10.16	.15	3.24E+14	2.28E+11	1.62E+08	4.00E-05	8.85E-12
7	12.29	.18	2.16E+14	2.27E+11	1.32E+08	2.69E-05	8.85E-12
8	14.41	.21	1.36E+14	2.25E+11	1.05E+08	1.71E-05	8.85E-12
9	16.59	.24	8.15E+13	2.22E+11	8.11E+07	1.03E-05	8.85E-12
10	18.81	.28	4.66E+13	2.20E+11	6.13E+07	5.98E-06	8.85E-12
11	21.06	.31	2.57E+13	2.17E+11	4.55E+07	3.34E-06	8.85E-12
12	23.42	.35	1.39E+13	2.14E+11	3.35E+07	1.84E-06	8.85E-12
13	25.83	.38	7.68E+12	2.10E+11	2.49E+07	1.03E-06	8.85E-12
14	28.31	.42	4.84E+12	2.08E+11	1.99E+07	6.63E-07	8.85E-12
15	30.99	.46	5.08E+12	2.02E+11	2.02E+07	7.09E-07	8.85E-12
16	33.56	.50	1.53E+13	1.97E+11	3.51E+07	2.19E-06	8.85E-12
17	36.35	.54	2.55E+13	1.92E+11	4.53E+07	3.73E-06	8.85E-12
18	39.26	.58	3.56E+13	1.87E+11	5.36E+07	5.37E-06	8.85E-12
19	42.31	.62	4.56E+13	1.82E+11	6.06E+07	7.06E-06	8.85E-12
20	45.51	.67	5.49E+13	1.76E+11	6.65E+07	8.76E-06	8.85E-12
21	48.88	.72	6.31E+13	1.71E+11	7.13E+07	1.04E-05	8.85E-12
22	52.45	.77	6.99E+13	1.65E+11	7.50E+07	1.19E-05	8.85E-12
23	56.22	.83	7.48E+13	1.60E+11	7.76E+07	1.32E-05	8.85E-12
24	60.23	.89	7.77E+13	1.54E+11	7.92E+07	1.42E-05	8.85E-12
25	64.50	.95	7.86E+13	1.49E+11	7.96E+07	1.49E-05	8.85E-12
26	69.04	1.02	7.75E+13	1.44E+11	7.80E+07	1.52E-05	8.85E-12
27	73.89	1.09	7.44E+13	1.38E+11	7.75E+07	1.51E-05	8.85E-12
28	79.06	1.17	6.99E+13	1.34E+11	7.50E+07	1.47E-05	8.85E-12
29	84.58	1.25	6.37E+13	1.30E+11	7.17E+07	1.38E-05	8.85E-12
30	90.45	1.34	5.67E+13	1.26E+11	6.76E+07	1.27E-05	8.85E-12
31	96.67	1.43	4.90E+13	1.23E+11	6.29E+07	1.13E-05	8.85E-12
32	103.25	1.52	4.11E+13	1.20E+11	5.76E+07	9.69E-06	8.85E-12
33	110.19	1.62	3.34E+13	1.17E+11	5.19E+07	8.05E-06	8.85E-12
34	117.53	1.73	2.61E+13	1.15E+11	4.59E+07	6.41E-06	8.85E-12
35	124.77	1.84	1.95E+13	1.13E+11	3.96E+07	4.84E-06	8.85E-12
36	132.40	1.95	1.36E+13	1.12E+11	3.32E+07	3.44E-06	8.85E-12
37	140.16	2.07	8.57E+12	1.10E+11	2.63E+07	2.19E-06	8.85E-12
38	148.06	2.19	4.35E+12	1.08E+11	1.87E+07	1.11E-06	8.85E-12
39	156.09	2.30	1.31E+12	1.08E+11	1.03E+07	3.40E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 1.03E-04 (MHOS/M)

POINT 30	NOZZLE RADIUS	SOCKET	REDEYE	FREQUENCY
7.92 (M)	1.48E-02 (M)	POSITION : PRESSURE :	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	4.84E+14	2.30E+11	1.96E+09	5.94E-05	8.85E-12
2	2.04	.03	4.67E+14	2.30E+11	1.94E+09	5.73E-05	8.85E-12
3	4.08	.06	4.19E+14	2.29E+11	1.84E+09	5.15E-05	8.85E-12
4	6.14	.09	3.50E+14	2.29E+11	1.68E+09	4.31E-05	8.85E-12
5	8.21	.12	2.73E+14	2.29E+11	1.48E+09	3.39E-05	8.85E-12
6	10.30	.15	2.00E+14	2.26E+11	1.27E+08	2.49E-05	8.85E-12
7	12.42	.18	1.38E+14	2.25E+11	1.05E+08	1.72E-05	8.85E-12
8	14.56	.22	8.96E+13	2.23E+11	8.50E+07	1.13E-05	8.85E-12
9	16.77	.25	5.56E+13	2.21E+11	6.70E+07	7.10E-06	8.85E-12
10	19.01	.28	3.31E+13	2.18E+11	5.16E+07	4.27E-06	8.85E-12
11	21.30	.31	1.90E+13	2.15E+11	3.92E+07	2.49E-06	8.85E-12
12	23.65	.35	1.08E+13	2.12E+11	2.94E+07	1.43E-06	8.85E-12
13	26.07	.39	6.23E+12	2.09E+11	2.24E+07	8.41E-07	8.85E-12
14	28.56	.42	4.17E+12	2.05E+11	1.83E+07	5.73E-07	8.85E-12
15	31.14	.46	4.64E+12	2.01E+11	1.34E+07	6.57E-07	8.85E-12
16	33.81	.50	1.48E+13	1.97E+11	3.46E+07	2.13E-06	8.85E-12
17	36.59	.54	2.46E+13	1.92E+11	4.46E+07	3.62E-06	8.85E-12
18	39.49	.58	3.40E+13	1.87E+11	5.24E+07	5.12E-06	8.85E-12
19	42.52	.63	4.28E+13	1.82E+11	5.87E+07	6.62E-06	8.85E-12
20	45.70	.67	5.08E+13	1.77E+11	6.40E+07	8.10E-06	8.85E-12
21	49.04	.72	5.78E+13	1.71E+11	6.83E+07	9.50E-06	8.85E-12
22	52.56	.79	6.36E+13	1.66E+11	7.16E+07	1.08E-05	8.85E-12
23	56.28	.83	6.80E+13	1.61E+11	7.40E+07	1.19E-05	8.85E-12
24	60.22	.89	7.08E+13	1.55E+11	7.55E+07	1.28E-05	8.85E-12
25	64.40	.95	7.19E+13	1.50E+11	7.61E+07	1.35E-05	8.85E-12
26	69.05	1.02	7.13E+13	1.45E+11	7.59E+07	1.39E-05	8.85E-12
27	73.58	1.09	6.91E+13	1.40E+11	7.47E+07	1.39E-05	8.85E-12
28	78.62	1.16	6.55E+13	1.36E+11	7.26E+07	1.36E-05	8.85E-12
29	83.96	1.24	6.05E+13	1.31E+11	6.99E+07	1.30E-05	8.85E-12
30	89.68	1.32	5.46E+13	1.28E+11	6.64E+07	1.21E-05	8.85E-12
31	95.73	1.41	4.81E+13	1.24E+11	6.22E+07	1.09E-05	8.85E-12
32	102.11	1.51	4.11E+13	1.21E+11	5.76E+07	9.58E-06	8.85E-12
33	108.93	1.61	3.42E+13	1.18E+11	5.25E+07	8.15E-06	8.85E-12
34	116.44	1.71	2.75E+13	1.16E+11	4.71E+07	6.68E-06	8.85E-12
35	123.12	1.82	2.13E+13	1.14E+11	4.14E+07	5.26E-06	8.85E-12
36	130.61	1.93	1.57E+13	1.12E+11	3.56E+07	3.93E-06	8.85E-12
37	138.26	2.04	1.08E+13	1.11E+11	2.96E+07	2.75E-06	8.85E-12
38	146.04	2.15	6.71E+12	1.10E+11	2.33E+07	1.72E-06	8.85E-12
39	153.90	2.27	3.17E+12	1.09E+11	1.60E+07	9.17E-07	8.85E-12

MAXIMUM CONDUCTIVITY = 5.94E-05 (MHOS/M)

#POINT31#	NOZZLE RADIUS	#ROCKET	REDEYE	#	FREQUENCY	#
# 8.23 #	1.43E-02	#POSITION	5000(FT)/10(FT/S)	#	2.50E+08	#
# (M) #	(M)	#PRESSUPE	0.832 (ATMOSPHERES)	#	(HZ)	#

# RADIAL# INDEX #	RELATIVE* RADIUS *	ABSOLUTE# RADIUS # (M)	ELECTRON* DENSITY * (1/M3)	COLLISION# FREQUENCY# (1/S)	PLASMA # FREQUENCY # (1/S)	SIGMA * (MHO/M)	EPSILON # * (FD/M) #
# 1 #	0.00 *	0.00	# 2.87E+14*	2.29E+11#	1.52E+08#	3.55E-05*	8.85E-12#
# 2 #	2.06 *	.03	# 2.77E+14*	2.28E+11#	1.50E+08#	3.43E-05*	8.85E-12#
# 3 #	4.13 *	.06	# 2.51E+14*	2.27E+11#	1.42E+08#	3.11E-05*	8.85E-12#
# 4 #	6.21 *	.09	# 2.12E+14*	2.27E+11#	1.31E+08#	2.64E-05*	8.85E-12#
# 5 #	8.31 *	.12	# 1.69E+14*	2.26E+11#	1.17E+08#	2.11E-05*	8.85E-12#
# 6 #	10.42 *	.15	# 1.26E+14*	2.25E+11#	1.01E+08#	1.59E-05*	8.85E-12#
# 7 #	12.56 *	.19	# 9.95E+13*	2.23E+11#	8.49E+07#	1.13E-05*	8.85E-12#
# 8 #	14.74 *	.22	# 6.01E+13*	2.21E+11#	6.96E+07#	7.60E-06*	8.85E-12#
# 9 #	16.95 *	.25	# 3.86E+13*	2.19E+11#	5.58E+07#	4.96E-06*	8.85E-12#
# 10 #	19.20 *	.28	# 2.37E+13*	2.17E+11#	4.38E+07#	3.09E-06*	8.85E-12#
# 11 #	21.51 *	.32	# 1.42E+13*	2.14E+11#	3.38E+07#	1.87E-06*	8.85E-12#
# 12 #	23.88 *	.35	# 8.34E+12*	2.11E+11#	2.59E+07#	1.11E-06*	8.85E-12#
# 13 #	26.30 *	.39	# 5.05E+12*	2.09E+11#	2.02E+07#	6.85E-07*	8.85E-12#
# 14 #	28.81 *	.42	# 3.56E+12*	2.04E+11#	1.69E+07#	4.91E-07*	8.85E-12#
# 15 #	31.39 *	.46	# 4.21E+12*	2.00E+11#	1.84E+07#	5.92E-07*	8.85E-12#
# 16 #	34.07 *	.50	# 1.38E+13*	1.96E+11#	3.34E+07#	1.99E-06*	8.85E-12#
# 17 #	36.84 *	.54	# 2.30E+13*	1.91E+11#	4.31E+07#	3.39E-06*	8.85E-12#
# 18 #	39.74 *	.59	# 3.17E+13*	1.87E+11#	5.06E+07#	4.70E-06*	8.85E-12#
# 19 #	42.75 *	.63	# 3.97E+13*	1.82E+11#	5.66E+07#	6.15E-06*	8.85E-12#
# 20 #	45.91 *	.68	# 4.70E+13*	1.77E+11#	6.15E+07#	7.42E-06*	8.85E-12#
# 21 #	49.22 *	.73	# 5.32E+13*	1.72E+11#	6.55E+07#	8.73E-06*	8.85E-12#
# 22 #	52.70 *	.78	# 5.84E+13*	1.67E+11#	6.86E+07#	9.87E-06*	8.85E-12#
# 23 #	56.37 *	.83	# 6.24E+13*	1.62E+11#	7.09E+07#	1.09E-05*	8.85E-12#
# 24 #	60.25 *	.89	# 6.50E+13*	1.56E+11#	7.24E+07#	1.17E-05*	8.85E-12#
# 25 #	64.36 *	.95	# 6.62E+13*	1.51E+11#	7.31E+07#	1.23E-05*	8.85E-12#
# 26 #	68.71 *	1.01	# 6.60E+13*	1.46E+11#	7.29E+07#	1.27E-05*	8.85E-12#
# 27 #	73.34 *	1.08	# 6.44E+13*	1.42E+11#	7.20E+07#	1.29E-05*	8.85E-12#
# 28 #	78.25 *	1.15	# 6.15E+13*	1.37E+11#	7.04E+07#	1.26E-05*	8.85E-12#
# 29 #	83.46 *	1.23	# 5.74E+13*	1.33E+11#	6.80E+07#	1.22E-05*	8.85E-12#
# 30 #	89.03 *	1.31	# 5.25E+13*	1.29E+11#	6.50E+07#	1.15E-05*	8.85E-12#
# 31 #	94.91 *	1.40	# 4.66E+13*	1.25E+11#	6.14E+07#	1.05E-05*	8.85E-12#
# 32 #	101.12 *	1.49	# 4.07E+13*	1.22E+11#	5.73E+07#	9.39E-06*	8.85E-12#
# 33 #	107.66 *	1.59	# 3.45E+13*	1.19E+11#	5.28E+07#	8.14E-06*	8.85E-12#
# 34 #	114.50 *	1.69	# 2.84E+13*	1.17E+11#	4.79E+07#	6.84E-06*	8.85E-12#
# 35 #	121.61 *	1.79	# 2.26E+13*	1.15E+11#	4.27E+07#	5.54E-06*	8.85E-12#
# 36 #	129.36 *	1.90	# 1.73E+13*	1.13E+11#	3.73E+07#	4.30E-06*	8.85E-12#
# 37 #	135.50 *	2.01	# 1.25E+13*	1.12E+11#	3.19E+07#	3.17E-06*	8.85E-12#
# 38 #	144.18 *	2.13	# 8.54E+12*	1.11E+11#	2.62E+07#	2.17E-06*	8.85E-12#
# 39 #	151.95 *	2.24	# 5.17E+12*	1.10E+11#	2.04E+07#	1.33E-06*	8.85E-12#
# 40 #	159.77 *	2.36	# 2.40E+12*	1.09E+11#	1.39E+07#	6.19E-07*	8.85E-12#

MAXIMUM CONDUCTIVITY = 3.55E-05 (MHOS/M)

POINT 32	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
5.54 (M)	1.48E-02 (M)	POSITION : PRESSURE :	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.76E+14	2.26E+11	1.19E+08	2.20E-05	8.85E-12
2	2.09	.03	1.71E+14	2.26E+11	1.17E+08	2.13E-05	8.85E-12
3	4.19	.06	1.56E+14	2.25E+11	1.12E+08	1.95E-05	8.85E-12
4	6.28	.09	1.34E+14	2.25E+11	1.04E+08	1.67E-05	8.85E-12
5	8.40	.12	1.08E+14	2.24E+11	9.33E+07	1.36E-05	8.85E-12
6	10.54	.16	8.25E+13	2.23E+11	8.15E+07	1.04E-05	8.85E-12
7	12.70	.19	5.98E+13	2.21E+11	6.94E+07	7.62E-06	8.85E-12
8	14.90	.22	4.13E+13	2.20E+11	5.77E+07	5.30E-06	8.85E-12
9	17.13	.25	2.73E+13	2.17E+11	4.69E+07	3.53E-06	8.85E-12
10	19.40	.29	1.73E+13	2.15E+11	3.74E+07	2.27E-06	8.85E-12
11	21.72	.32	1.07E+13	2.13E+11	2.94E+07	1.42E-06	8.85E-12
12	24.10	.36	6.52E+12	2.10E+11	2.29E+07	8.77E-07	8.85E-12
13	26.54	.39	4.11E+12	2.06E+11	1.82E+07	5.61E-07	8.85E-12
14	29.05	.43	3.03E+12	2.03E+11	1.56E+07	4.21E-07	8.85E-12
15	31.64	.47	3.75E+12	1.99E+11	1.74E+07	5.31E-07	8.85E-12
16	34.32	.51	1.28E+13	1.95E+11	3.21E+07	1.85E-06	8.85E-12
17	37.10	.55	2.13E+13	1.91E+11	4.15E+07	3.15E-06	8.85E-12
18	39.98	.59	2.94E+13	1.87E+11	4.87E+07	4.44E-06	8.85E-12
19	42.99	.63	3.66E+13	1.82E+11	5.44E+07	5.69E-06	8.85E-12
20	46.13	.68	4.34E+13	1.77E+11	5.91E+07	6.98E-06	8.85E-12
21	49.41	.73	4.91E+13	1.72E+11	6.29E+07	8.04E-06	8.85E-12
22	52.86	.78	5.39E+13	1.67E+11	6.59E+07	9.08E-06	8.85E-12
23	56.49	.83	5.75E+13	1.62E+11	6.81E+07	9.99E-06	8.85E-12
24	60.31	.89	6.00E+13	1.57E+11	6.96E+07	1.06E-05	8.85E-12
25	64.35	.95	6.13E+13	1.52E+11	7.03E+07	1.13E-05	8.85E-12
26	68.63	1.01	6.13E+13	1.48E+11	7.03E+07	1.17E-05	8.85E-12
27	73.16	1.08	6.01E+13	1.43E+11	6.96E+07	1.19E-05	8.85E-12
28	77.97	1.15	5.78E+13	1.38E+11	6.83E+07	1.18E-05	8.85E-12
29	83.07	1.23	5.45E+13	1.34E+11	6.63E+07	1.14E-05	8.85E-12
30	88.48	1.31	5.03E+13	1.30E+11	6.37E+07	1.09E-05	8.85E-12
31	94.21	1.39	4.54E+13	1.27E+11	6.05E+07	1.01E-05	8.85E-12
32	100.27	1.48	4.01E+13	1.24E+11	5.68E+07	9.14E-06	8.85E-12
33	106.64	1.57	3.45E+13	1.21E+11	5.28E+07	8.06E-06	8.85E-12
34	113.31	1.67	2.91E+13	1.13E+11	4.83E+07	6.91E-06	8.85E-12
35	120.26	1.77	2.36E+13	1.16E+11	4.36E+07	5.74E-06	8.85E-12
36	127.47	1.88	1.86E+13	1.14E+11	3.87E+07	4.59E-06	8.85E-12
37	134.87	1.99	1.40E+13	1.13E+11	3.36E+07	3.51E-06	8.85E-12
38	142.45	2.10	1.00E+13	1.11E+11	2.94E+07	2.54E-06	8.85E-12
39	150.14	2.21	6.59E+12	1.10E+11	2.30E+07	1.64E-06	8.85E-12
40	157.91	2.33	3.80E+12	1.10E+11	1.75E+07	9.77E-07	8.85E-12
41	165.71	2.44	1.97E+12	1.09E+11	1.16E+07	4.32E-07	8.85E-12

MAXIMUM CONDUCTIVITY = 2.20E-05 (MHOS/M)

POINT 33	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
3.94 (M)	1.48E-02 (M)	POSITION : PRESSURE :	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+03 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.12E+14	2.24E+11	9.50E+07	1.41E-05	8.85E-12
2	2.11	.03	1.09E+14	2.24E+11	9.36E+07	1.37E-05	8.85E-12
3	4.23	.06	9.98E+13	2.24E+11	8.97E+07	1.26E-05	8.85E-12
4	6.35	.09	8.65E+13	2.23E+11	8.35E+07	1.09E-05	8.85E-12
5	8.49	.13	7.09E+13	2.22E+11	7.56E+07	9.00E-06	8.85E-12
6	10.65	.16	5.52E+13	2.21E+11	6.67E+07	7.04E-06	8.85E-12
7	12.84	.19	4.09E+13	2.20E+11	5.74E+07	5.24E-06	8.85E-12
8	15.05	.22	2.89E+13	2.14E+11	4.83E+07	3.74E-06	8.85E-12
9	17.30	.26	1.96E+13	2.16E+11	3.97E+07	2.56E-06	8.85E-12
10	19.59	.29	1.28E+13	2.14E+11	3.21E+07	1.69E-06	8.85E-12
11	21.93	.32	8.14E+12	2.11E+11	2.56E+07	1.09E-06	8.85E-12
12	24.32	.36	5.14E+12	2.08E+11	2.04E+07	6.95E-07	8.85E-12
13	26.78	.40	3.36E+12	2.05E+11	1.65E+07	4.61E-07	8.85E-12
14	29.30	.43	2.59E+12	2.02E+11	1.44E+07	3.61E-07	8.85E-12
15	31.90	.47	3.34E+12	1.98E+11	1.64E+07	4.75E-07	8.85E-12
16	34.58	.51	1.17E+13	1.95E+11	3.08E+07	1.70E-06	8.85E-12
17	37.35	.55	1.97E+13	1.90E+11	3.99E+07	2.92E-06	8.85E-12
18	40.23	.59	2.72E+13	1.86E+11	4.68E+07	4.11E-06	8.85E-12
19	43.23	.64	3.40E+13	1.82E+11	5.24E+07	5.27E-06	8.85E-12
20	46.35	.68	4.01E+13	1.77E+11	5.69E+07	6.39E-06	8.85E-12
21	49.62	.73	4.54E+13	1.72E+11	6.05E+07	7.42E-06	8.85E-12
22	53.04	.78	4.99E+13	1.63E+11	6.34E+07	8.34E-06	8.85E-12
23	56.63	.84	5.33E+13	1.65E+11	6.55E+07	9.22E-06	8.85E-12
24	60.41	.89	5.57E+13	1.58E+11	6.70E+07	9.93E-06	8.85E-12
25	64.39	.95	5.70E+13	1.53E+11	6.78E+07	1.05E-05	8.85E-12
26	68.63	1.01	5.72E+13	1.49E+11	6.79E+07	1.09E-05	8.85E-12
27	73.04	1.08	5.64E+13	1.44E+11	6.74E+07	1.10E-05	8.85E-12
28	77.76	1.15	5.45E+13	1.40E+11	6.53E+07	1.10E-05	8.85E-12
29	82.75	1.22	5.17E+13	1.36E+11	6.46E+07	1.05E-05	8.85E-12
30	88.03	1.30	4.92E+13	1.32E+11	6.23E+07	1.03E-05	8.85E-12
31	93.62	1.38	4.39E+13	1.28E+11	5.95E+07	9.67E-06	8.85E-12
32	99.53	1.47	3.42E+13	1.25E+11	5.62E+07	8.65E-06	8.85E-12
33	105.74	1.56	3.43E+13	1.22E+11	5.26E+07	7.93E-06	8.85E-12
34	112.26	1.66	2.93E+13	1.19E+11	4.96E+07	6.91E-06	8.85E-12
35	119.09	1.76	2.43E+13	1.17E+11	4.43E+07	5.65E-06	8.85E-12
36	126.11	1.86	1.96E+13	1.15E+11	3.98E+07	4.80E-06	8.85E-12
37	133.39	1.97	1.53E+13	1.13E+11	3.51E+07	3.90E-06	8.85E-12
38	140.85	2.08	1.14E+13	1.12E+11	3.03E+07	2.87E-06	8.85E-12
39	148.45	2.19	7.99E+12	1.11E+11	2.54E+07	2.03E-06	8.85E-12
40	156.15	2.30	5.02E+12	1.10E+11	2.01E+07	1.29E-06	8.85E-12
41	163.92	2.42	2.45E+12	1.09E+11	1.41E+07	6.33E-07	8.85E-12
42	171.73	2.53	5.17E+11	1.09E+11	6.45E+06	1.34E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 1.41E-05 (MHOS/M)

POINT34	NOZZLE RADIUS	POCKET POSITION : REDEYE 5000(FT)/10(FT/S)	FREQUENCY
9.15 (M)	1.49E-02 (M)	PRESSURE : 0.032 (ATMOSPHERES)	2.50E+09 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.38E+13	2.22E+11	7.71E+07	9.35E-06	8.85E-12
2	2.13	.03	7.19E+13	2.22E+11	7.61E+07	9.11E-06	8.85E-12
3	4.27	.06	6.63E+13	2.22E+11	7.31E+07	8.42E-06	8.85E-12
4	6.42	.09	5.80E+13	2.21E+11	6.84E+07	7.38E-06	8.85E-12
5	8.58	.13	4.82E+13	2.20E+11	6.23E+07	6.16E-06	8.85E-12
6	10.76	.16	3.81E+13	2.19E+11	5.54E+07	4.89E-06	8.85E-12
7	12.97	.19	2.87E+13	2.18E+11	4.81E+07	3.71E-06	8.85E-12
8	15.20	.22	2.07E+13	2.16E+11	4.09E+07	2.70E-06	8.85E-12
9	17.47	.26	1.44E+13	2.14E+11	3.40E+07	1.89E-06	8.85E-12
10	19.78	.29	9.64E+12	2.12E+11	2.79E+07	1.29E-06	8.85E-12
11	22.13	.33	6.31E+12	2.10E+11	2.25E+07	8.47E-07	8.85E-12
12	24.54	.36	4.10E+12	2.07E+11	1.82E+07	5.56E-07	8.85E-12
13	27.01	.40	2.78E+12	2.04E+11	1.50E+07	3.84E-07	8.85E-12
14	29.54	.44	2.23E+12	2.01E+11	1.34E+07	3.12E-07	8.85E-12
15	32.14	.47	2.99E+12	1.98E+11	1.55E+07	4.27E-07	8.85E-12
16	34.83	.51	1.08E+13	1.94E+11	2.95E+07	1.57E-06	8.85E-12
17	37.61	.55	1.82E+13	1.90E+11	3.83E+07	2.71E-06	8.85E-12
18	40.48	.60	2.52E+13	1.86E+11	4.51E+07	3.82E-06	8.85E-12
19	43.47	.64	3.15E+13	1.82E+11	5.04E+07	4.69E-06	8.85E-12
20	46.56	.69	3.72E+13	1.77E+11	5.48E+07	5.92E-06	8.85E-12
21	49.83	.74	4.22E+13	1.73E+11	5.83E+07	6.89E-06	8.85E-12
22	53.22	.79	4.63E+13	1.68E+11	6.11E+07	7.77E-06	8.85E-12
23	56.78	.84	4.96E+13	1.63E+11	6.32E+07	8.55E-06	8.85E-12
24	60.52	.89	5.19E+13	1.59E+11	6.47E+07	9.21E-06	8.85E-12
25	64.45	.95	5.32E+13	1.54E+11	6.55E+07	9.74E-06	8.85E-12
26	68.60	1.01	5.38E+13	1.49E+11	6.57E+07	1.01E-05	8.85E-12
27	72.97	1.08	5.30E+13	1.45E+11	6.54E+07	1.03E-05	8.85E-12
28	77.60	1.14	5.16E+13	1.41E+11	6.45E+07	1.03E-05	8.85E-12
29	82.49	1.22	4.92E+13	1.37E+11	6.30E+07	1.01E-05	8.85E-12
30	87.67	1.29	4.62E+13	1.33E+11	6.10E+07	9.79E-06	8.85E-12
31	93.14	1.37	4.25E+13	1.29E+11	5.85E+07	9.26E-06	8.85E-12
32	98.91	1.46	3.93E+13	1.26E+11	5.56E+07	8.58E-06	8.85E-12
33	104.98	1.55	3.59E+13	1.23E+11	5.23E+07	7.77E-06	8.85E-12
34	111.35	1.64	2.93E+13	1.20E+11	4.86E+07	6.87E-06	8.85E-12
35	118.01	1.74	2.47E+13	1.18E+11	4.47E+07	5.91E-06	8.85E-12
36	124.92	1.84	2.04E+13	1.16E+11	4.05E+07	4.95E-06	8.85E-12
37	132.07	1.95	1.62E+13	1.14E+11	3.62E+07	4.01E-06	8.85E-12
38	139.42	2.06	1.25E+13	1.13E+11	3.17E+07	3.12E-06	8.85E-12
39	146.92	2.17	9.19E+12	1.12E+11	2.72E+07	2.32E-06	8.85E-12
40	154.54	2.28	6.33E+12	1.11E+11	2.26E+07	1.61E-06	8.85E-12
41	162.23	2.39	3.91E+12	1.10E+11	1.77E+07	1.00E-06	8.85E-12
42	169.97	2.51	1.84E+12	1.09E+11	1.22E+07	4.75E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 1.03E-05 (MHOS/M)

APPENDIX C

LAPP computer code output for the Redeye Missile (equally spaced data).

#POINT 1#	NOZZLE RADIUS	#POCKET	REDEYE	FREQUENCY
# 0.00 #	1.43E-02	#POSITION :	5000(FT)/10(FT/S) #	2.50E+08 #
# (M) #	(M)	#PRESSURE :	0.832 (ATMOSPHERES#	(HZ) #

# RADIAL INDEX #	RELATIVE RADIUS *	ABSOLUTE RADIUS #	ELECTRON DENSITY *	COLLISION FREQUENCY #	PLASMA FREQUENCY #	SIGMA (MHO/M) *	EPSILON (FD/M) #
#	*	(M) #	(1/M3) *	(1/S) #	(1/S) #	*	#
# 1 #	0.00 *	0.00 #	1.59E+17*	3.71E+11#	3.58E+09#	1.21E-02*	8.82E-12#

MAXIMUM CONDUCTIVITY : 1.21E-02 (MHOS/M)

#POINT 2#	NOZZLE RADIUS	#POCKET	REDEYE	FREQUENCY
# .20 #	1.48E-02	#POSITION :	5000(FT)/10(FT/S) #	2.50E+08 #
# (M) #	(M)	#PRESSURE :	0.832 (ATMOSPHERES#	(HZ) #

# RADIAL INDEX #	RELATIVE RADIUS *	ABSOLUTE RADIUS #	ELECTRON DENSITY *	COLLISION FREQUENCY #	PLASMA FREQUENCY #	SIGMA (MHO/M) *	EPSILON (FD/M) #
#	*	(M) #	(1/M3) *	(1/S) #	(1/S) #	*	#
# 1 #	0.00 *	0.00 #	1.51E+17*	2.52E+11#	3.49E+09#	1.69E-02*	8.79E-12#
# 2 #	3.39 *	.05 #	5.78E+17*	1.03E+11#	6.83E+09#	.16 *	7.31E-12#
# 3 #	6.78 *	.10 #	1.99E+17*	7.34E+10#	4.01E+09#	7.54E-02*	7.81E-12#
# 4 #	10.17 *	.15 #	4.52E+16*	4.79E+10#	1.91E+09#	2.66E-02*	8.30E-12#

MAXIMUM CONDUCTIVITY : .16 (MHOS/M)

#POINT 3#	NOZZLE RADIUS	#POCKET	REDEYE	FREQUENCY
# .40 #	1.42E-02	#POSITION :	5000(FT)/10(FT/S) #	2.50E+08 #
# (M) #	(M)	#PRESSURE :	0.832 (ATMOSPHERES#	(HZ) #

# RADIAL INDEX #	RELATIVE RADIUS *	ABSOLUTE RADIUS #	ELECTRON DENSITY *	COLLISION FREQUENCY #	PLASMA FREQUENCY #	SIGMA (MHO/M) *	EPSILON (FD/M) #
#	*	(M) #	(1/M3) *	(1/S) #	(1/S) #	*	#
# 1 #	0.00 *	0.00 #	1.79E+17*	2.51E+11#	3.80E+09#	2.01E-02*	8.77E-12#
# 2 #	3.39 *	.05 #	1.55E+17*	2.84E+11#	1.12E+10#	.15 *	8.31E-12#
# 3 #	6.78 *	.10 #	5.30E+17*	2.07E+11#	6.90E+09#	8.02E-02*	8.47E-12#
# 4 #	10.17 *	.15 #	1.52E+17*	1.38E+11#	3.50E+09#	3.10E-02*	8.63E-12#
# 5 #	13.56 *	.20 #	1.85E+16*	1.10E+10#	1.22E+09#	4.63E-02*	4.66E-12#
# 6 #	16.95 *	.25 #	8.29E+15*	8.93E+09#	8.17E+08#	2.54E-02*	6.01E-12#

MAXIMUM CONDUCTIVITY : .15 (MHOS/M)

#POINT 4#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
.60	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	3.71E+17	2.49E+11	5.47E+09	4.20E-02	8.69E-12
2	3.39	.05	1.06E+18	2.73E+11	9.25E+09	.11	8.45E-12
3	6.78	.10	9.69E+17	2.45E+11	8.84E+09	.11	8.40E-12
4	10.17	.15	4.16E+17	1.91E+11	5.79E+09	6.13E-02	8.53E-12
5	13.56	.20	2.04E+17	1.22E+11	4.06E+09	4.72E-02	8.47E-12
6	16.95	.25	9.13E+16	9.84E+10	2.71E+09	2.61E-02	8.59E-12

MAXIMUM CONDUCTIVITY : .11 (MHOS/M)

#POINT 5#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
.80	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	5.76E+17	2.49E+11	6.82E+09	6.53E-02	8.59E-12
2	3.39	.05	7.36E+17	2.64E+11	7.70E+09	7.86E-02	8.56E-12
3	6.78	.10	1.17E+18	2.64E+11	9.71E+09	.13	8.38E-12
4	10.17	.15	6.24E+17	2.25E+11	7.09E+09	7.82E-02	8.51E-12
5	13.56	.20	2.78E+17	1.83E+11	4.73E+09	4.28E-02	8.62E-12
6	16.95	.25	1.48E+17	1.50E+11	3.45E+09	2.77E-02	8.67E-12
7	20.34	.30	3.75E+16	5.39E+10	1.74E+09	1.96E-02	8.49E-12
8	23.73	.35	1.41E+16	4.58E+10	1.06E+09	8.03E-03	8.67E-12

MAXIMUM CONDUCTIVITY : .13 (MHOS/M)

#POINT 6#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
1.00	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.79E+17	2.50E+11	7.92E+09	8.73E-02	8.50E-12
2	3.39	.05	5.55E+17	2.57E+11	6.57E+09	5.86E-02	8.63E-12
3	6.78	.10	1.23E+18	2.67E+11	9.95E+09	.13	8.37E-12
4	10.17	.15	7.98E+17	2.44E+11	7.97E+09	9.11E-02	8.45E-12
5	13.56	.20	2.70E+17	2.08E+11	4.57E+09	3.66E-02	8.68E-12
6	16.95	.25	1.81E+17	1.73E+11	5.81E+09	2.93E-02	8.69E-12
7	20.34	.30	9.94E+16	1.44E+11	2.83E+09	1.94E-02	8.72E-12
8	23.73	.35	3.78E+16	1.22E+11	1.75E+09	8.70E-03	8.78E-12

MAXIMUM CONDUCTIVITY : .13 (MHOS/M)

#POINT 7#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
1.20	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	6.50E+17	2.48E+11	7.28E+09	7.49E-02	8.55E-12
2	3.39	.05	3.93E+17	2.53E+11	5.63E+09	4.36E-02	8.68E-12
3	6.78	.10	1.01E+18	2.65E+11	9.00E+09	.11	8.45E-12
4	10.17	.15	9.11E+17	2.51E+11	8.57E+09	.10	8.45E-12
5	13.56	.20	2.97E+17	2.22E+11	4.89E+09	3.77E-02	8.68E-12
6	16.95	.25	1.36E+17	1.91E+11	3.31E+09	2.01E-02	8.75E-12
7	20.34	.30	9.08E+16	1.62E+11	2.70E+09	1.54E-02	8.76E-12
8	23.73	.35	4.70E+16	1.37E+11	1.95E+09	9.64E-03	8.78E-12
9	27.11	.40	3.13E+15	2.89E+10	9.12E+08	7.97E-03	8.58E-12
10	30.50	.45	5.28E+15	2.62E+10	6.52E+08	5.66E-03	8.64E-12
11	33.89	.50	2.89E+15	2.41E+10	4.82E+08	3.36E-03	8.71E-12

MAXIMUM CONDUCTIVITY : .11 (MHOS/M)

#POINT 9#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
1.40	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	4.14E+17	2.43E+11	5.79E+09	4.79E-02	8.66E-12
2	3.39	.05	2.65E+17	2.49E+11	4.62E+09	3.00E-02	8.73E-12
3	6.78	.10	7.50E+17	2.63E+11	7.67E+09	7.82E-02	8.56E-12
4	10.17	.15	9.64E+17	2.55E+11	8.32E+09	.11	8.43E-12
5	13.56	.20	3.77E+17	2.33E+11	5.51E+09	4.57E-02	8.66E-12
6	16.95	.25	3.02E+16	2.05E+11	2.54E+09	1.10E-02	8.80E-12
7	20.34	.30	7.46E+16	1.90E+11	2.45E+09	1.17E-02	8.79E-12
8	23.73	.35	5.39E+16	1.58E+11	2.12E+09	9.97E-03	8.79E-12
9	27.11	.40	3.32E+16	1.24E+11	1.69E+09	7.99E-03	8.79E-12
10	30.50	.45	2.27E+16	1.13E+11	1.35E+09	5.68E-03	8.80E-12
11	33.89	.50	1.24E+16	1.04E+11	9.99E+08	3.37E-03	8.92E-12

MAXIMUM CONDUCTIVITY : .11 (MHOS/M)

POINT 9	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
1.60 (M)	1.48E-02 (M)	POSITION : PRESSURE :	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	2.61E+17	2.39E+11	4.40E+09	2.84E-02	8.74E-12
2	3.39	.05	1.76E+17	2.46E+11	3.76E+09	2.02E-02	8.77E-12
3	6.78	.10	5.19E+17	2.60E+11	6.47E+09	5.62E-02	8.64E-12
4	10.17	.15	9.71E+17	2.57E+11	8.85E+09	.11	8.44E-12
5	13.56	.20	4.30E+17	2.39E+11	5.88E+09	5.07E-02	8.64E-12
6	16.95	.25	6.57E+16	2.15E+11	2.30E+09	9.60E-03	8.81E-12
7	20.34	.30	4.71E+16	1.92E+11	1.95E+09	6.92E-03	8.82E-12
8	23.73	.35	4.27E+16	1.71E+11	1.86E+09	7.02E-03	8.81E-12
9	27.11	.40	3.27E+16	1.54E+11	1.62E+09	5.99E-03	8.82E-12
10	30.50	.45	2.29E+16	1.40E+11	1.36E+09	4.61E-03	8.82E-12
11	33.89	.50	1.44E+16	1.29E+11	1.08E+09	3.15E-03	8.83E-12
12	37.28	.55	4.96E+15	6.46E+10	6.32E+08	2.16E-03	8.92E-12
13	40.67	.60	3.00E+15	6.08E+10	4.92E+08	1.39E-03	8.83E-12

MAXIMUM CONDUCTIVITY : .11 (MHOS/M)

POINT10	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
1.80 (M)	1.48E-02 (M)	POSITION : PRESSURE :	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.14E+17	2.35E+11	3.03E+09	1.37E-02	8.80E-12
2	3.39	.05	1.09E+17	2.43E+11	2.97E+09	1.27E-02	8.80E-12
3	6.78	.10	3.50E+17	2.57E+11	5.31E+09	3.84E-02	8.70E-12
4	10.17	.15	9.06E+17	2.57E+11	8.54E+09	9.93E-02	8.47E-12
5	13.56	.20	4.62E+17	2.43E+11	6.11E+09	5.35E-02	8.63E-12
6	16.95	.25	6.30E+16	2.23E+11	2.25E+09	7.96E-03	8.82E-12
7	20.34	.30	2.18E+16	2.02E+11	1.33E+09	3.05E-03	8.84E-12
8	23.73	.35	2.52E+16	1.82E+11	1.43E+09	3.91E-03	8.83E-12
9	27.11	.40	2.24E+16	1.64E+11	1.34E+09	3.84E-03	8.83E-12
10	30.50	.45	1.79E+16	1.50E+11	1.20E+09	3.36E-03	8.83E-12
11	33.89	.50	1.34E+16	1.38E+11	1.04E+09	2.73E-03	8.83E-12
12	37.28	.55	9.31E+15	1.29E+11	8.66E+08	2.04E-03	8.94E-12
13	40.67	.60	5.79E+15	1.21E+11	6.83E+08	1.35E-03	8.84E-12
14	44.06	.65	5.93E+14	2.01E+10	2.19E+08	9.26E-04	8.81E-12
15	47.45	.70	3.47E+14	1.92E+10	1.67E+08	5.07E-04	8.83E-12
16	50.84	.75	1.64E+14	1.85E+10	1.15E+08	2.48E-04	8.84E-12

MAXIMUM CONDUCTIVITY : 9.93E-02 (MHOS/M)

#POINT11#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
# 2.00 #	1.48E-02	#POSITION :	5000(FT)/10(FT/S) #	2.50E+08
# (M) #	(M)	#PRESSURE :	0.832 (ATMOSPHERES)#	(HZ)

# RADIAL# INDEX #	RELATIVE* RADIUS *	ABSOLUTE# RADIUS #	ELECTRON* DENSITY *	COLLISION# FREQUENCY#	PLASMA # FREQUENCY#	SIGMA * (MHO/M) *	EPSILON # (FD/M) #
		(M)	(1/M3)	(1/S)	(1/S)		
1	0.00	0.00	6.55E+16	2.34E+11	2.30E+09	7.89E-03	8.82E-12
2	3.39	.05	7.50E+16	2.42E+11	2.46E+09	9.73E-03	8.82E-12
3	6.78	.10	2.55E+17	2.55E+11	4.53E+09	2.82E-02	8.74E-12
4	10.17	.15	7.74E+17	2.56E+11	7.90E+09	8.51E-02	8.52E-12
5	13.56	.20	4.53E+17	2.49E+11	6.09E+09	5.27E-02	8.64E-12
6	16.95	.25	6.02E+16	2.28E+11	2.20E+09	7.44E-03	8.82E-12
7	20.34	.30	1.23E+16	2.08E+11	9.96E+08	1.66E-03	8.85E-12
8	23.73	.35	1.41E+16	1.89E+11	1.06E+09	2.09E-03	8.84E-12
9	27.11	.40	1.37E+16	1.72E+11	1.05E+09	2.24E-03	8.84E-12
10	30.50	.45	1.21E+16	1.58E+11	9.86E+08	2.15E-03	8.84E-12
11	33.89	.50	9.89E+15	1.45E+11	8.95E+08	1.92E-03	8.84E-12
12	37.28	.55	7.59E+15	1.35E+11	7.82E+08	1.59E-03	8.84E-12
13	40.67	.60	5.40E+15	1.27E+11	6.60E+08	1.20E-03	8.84E-12
14	44.06	.65	2.35E+15	1.20E+11	4.08E+08	5.31E-04	8.85E-12
15	47.45	.70	1.73E+15	9.53E+10	3.73E+08	5.10E-04	8.85E-12
16	50.84	.75	8.16E+14	9.19E+10	2.57E+08	2.50E-04	8.85E-12

MAXIMUM CONDUCTIVITY : 8.51E-02 (MHOS/M)

#POINT12#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
# 2.20 #	1.48E-02	#POSITION :	5000(FT)/10(FT/S) #	2.50E+08
# (M) #	(M)	#PRESSURE :	0.832 (ATMOSPHERES)#	(HZ)

# RADIAL# INDEX #	RELATIVE* RADIUS *	ABSOLUTE# RADIUS #	ELECTRON* DENSITY *	COLLISION# FREQUENCY#	PLASMA # FREQUENCY#	SIGMA * (MHO/M) *	EPSILON # (FD/M) #
		(M)	(1/M3)	(1/S)	(1/S)		
1	0.00	0.00	4.21E+16	2.35E+11	1.84E+09	3.05E-03	8.83E-12
2	3.39	.05	5.62E+16	2.42E+11	2.13E+09	5.56E-03	8.83E-12
3	6.78	.10	1.36E+17	2.53E+11	3.97E+09	2.18E-02	8.77E-12
4	10.17	.15	6.32E+17	2.55E+11	7.14E+09	6.99E-02	8.58E-12
5	13.56	.20	4.29E+17	2.46E+11	5.88E+09	4.91E-02	8.65E-12
6	16.95	.25	5.48E+16	2.31E+11	2.10E+09	6.68E-03	8.83E-12
7	20.34	.30	7.77E+15	2.13E+11	7.92E+08	1.03E-03	8.85E-12
8	23.73	.35	7.57E+15	1.96E+11	7.81E+08	1.09E-03	8.85E-12
9	27.11	.40	8.51E+15	1.79E+11	8.29E+08	1.34E-03	8.85E-12
10	30.50	.45	8.11E+15	1.64E+11	8.08E+08	1.39E-03	8.85E-12
11	33.89	.50	7.14E+15	1.52E+11	7.58E+08	1.32E-03	8.85E-12
12	37.28	.55	5.37E+15	1.42E+11	6.84E+08	1.17E-03	8.85E-12
13	40.67	.60	4.55E+15	1.33E+11	6.05E+08	9.63E-04	8.85E-12
14	44.06	.65	3.28E+15	1.26E+11	5.14E+08	7.54E-04	8.85E-12
15	47.45	.70	2.13E+15	1.20E+11	4.15E+08	5.01E-04	8.85E-12
16	50.84	.75	1.23E+15	1.15E+11	3.14E+08	3.00E-04	8.85E-12
17	54.23	.80	4.29E+14	5.44E+10	1.86E+08	2.22E-04	8.85E-12
18	57.62	.85	2.10E+14	5.23E+10	1.30E+08	1.12E-04	8.85E-12

MAXIMUM CONDUCTIVITY : 6.99E-02 (MHOS/M)

POINT 13	NOZZLE RADIUS	ROCKET POSITION / PRESSURE	REDEYE: 5000(FT)/10(FT/S); 0.832 (ATMOSPHERES)	FREQUENCY
2.40 (M)	1.48E-02 (M)			2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	3.03E+16	2.36E+11	1.56E+09	3.62E-03	8.84E-12
2	3.39	.05	4.53E+16	2.42E+11	1.91E+09	5.27E-03	8.83E-12
3	6.78	.10	1.55E+17	2.51E+11	3.54E+09	1.74E-02	8.78E-12
4	10.17	.15	4.95E+17	2.54E+11	6.32E+09	5.50E-02	8.64E-12
5	13.56	.20	3.84E+17	2.47E+11	5.56E+09	4.38E-02	8.68E-12
6	16.95	.25	4.81E+16	2.34E+11	1.97E+09	5.80E-03	8.83E-12
7	20.34	.30	5.39E+15	2.19E+11	6.59E+08	6.98E-04	8.85E-12
8	23.73	.35	3.46E+15	2.01E+11	5.28E+08	4.86E-04	8.85E-12
9	27.11	.40	4.97E+15	1.85E+11	6.33E+08	7.58E-04	8.85E-12
10	30.50	.45	5.17E+15	1.70E+11	6.45E+08	8.54E-04	8.85E-12
11	33.89	.50	4.86E+15	1.58E+11	6.26E+08	8.67E-04	8.85E-12
12	37.28	.55	4.27E+15	1.47E+11	5.87E+08	8.17E-04	8.85E-12
13	40.67	.60	3.56E+15	1.38E+11	5.36E+08	7.24E-04	8.85E-12
14	44.06	.65	2.81E+15	1.31E+11	4.76E+08	6.06E-04	8.85E-12
15	47.45	.70	2.10E+15	1.25E+11	4.12E+08	4.75E-04	8.85E-12
16	50.84	.75	1.46E+15	1.19E+11	3.43E+08	3.44E-04	8.85E-12
17	54.23	.80	9.12E+14	1.15E+11	2.71E+08	2.23E-04	8.85E-12
18	57.62	.85	4.67E+14	1.12E+11	1.94E+08	1.17E-04	8.85E-12
19	61.01	.90	4.50E+13	1.46E+10	6.02E+07	8.61E-05	8.85E-12
20	64.40	.95	1.50E+13	1.42E+10	3.48E+07	2.94E-05	8.85E-12

MAXIMUM CONDUCTIVITY = 5.50E-02 (MHOS/M)

POINT 14	NOZZLE RADIUS	ROCKET POSITION / PRESSURE	REDEYE: 5000(FT)/10(FT/S); 0.832 (ATMOSPHERES)	FREQUENCY
2.60 (M)	1.48E-02 (M)			2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	2.73E+16	2.38E+11	1.48E+09	3.22E-03	8.84E-12
2	3.39	.05	4.19E+16	2.43E+11	1.84E+09	4.66E-03	8.83E-12
3	6.78	.10	1.34E+17	2.50E+11	3.29E+09	1.51E-02	8.79E-12
4	10.17	.15	3.89E+17	2.52E+11	5.60E+09	4.35E-02	8.68E-12
5	13.56	.20	3.19E+17	2.47E+11	5.07E+09	3.64E-02	8.71E-12
6	16.95	.25	4.06E+16	2.35E+11	1.81E+09	4.87E-03	8.83E-12
7	20.34	.30	3.99E+15	2.20E+11	5.67E+08	5.10E-04	8.85E-12
8	23.73	.35	1.86E+15	2.05E+11	3.87E+08	2.56E-04	8.85E-12
9	27.11	.40	2.92E+15	1.89E+11	4.85E+08	4.35E-04	8.85E-12
10	30.50	.45	3.40E+15	1.75E+11	5.24E+08	5.47E-04	8.85E-12
11	33.89	.50	3.40E+15	1.63E+11	5.23E+08	5.88E-04	8.85E-12
12	37.28	.55	3.14E+15	1.52E+11	5.03E+08	5.81E-04	8.85E-12
13	40.67	.60	2.73E+15	1.43E+11	4.69E+08	5.38E-04	8.85E-12
14	44.06	.65	2.27E+15	1.35E+11	4.28E+08	4.72E-04	8.85E-12
15	47.45	.70	1.80E+15	1.29E+11	3.81E+08	3.94E-04	8.85E-12
16	50.84	.75	1.35E+15	1.23E+11	3.30E+08	3.09E-04	8.85E-12
17	54.23	.80	9.49E+14	1.19E+11	2.77E+08	2.25E-04	8.85E-12
18	57.62	.85	5.93E+14	1.15E+11	2.19E+08	1.45E-04	8.85E-12
19	61.01	.90	2.72E+14	8.81E+10	1.40E+08	8.71E-05	8.85E-12
20	64.40	.95	9.08E+13	8.60E+10	8.56E+07	2.97E-05	8.85E-12

MAXIMUM CONDUCTIVITY = 4.35E-02 (MHOS/M) 88

POINT15	NOZZLE RADIUS	ROCKET POSITION : REDEYE	FREQUENCY
2.90 (M)	1.48E-02 (M)	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	2.75E+16	2.41E+11	1.49E+09	3.22E-03	8.84E-12
2	3.39	.05	4.19E+16	2.44E+11	1.84E+09	4.84E-03	8.83E-12
3	6.78	.10	1.20E+17	2.50E+11	3.11E+09	1.35E-02	8.80E-12
4	10.17	.15	3.10E+17	2.51E+11	5.00E+09	3.48E-02	8.72E-12
5	13.56	.20	2.58E+17	2.46E+11	4.56E+09	2.96E-02	8.73E-12
6	16.95	.25	3.35E+16	2.36E+11	1.64E+09	4.01E-03	8.84E-12
7	20.34	.30	3.00E+15	2.22E+11	4.92E+08	3.80E-04	8.85E-12
8	23.73	.35	1.03E+15	2.[illegible]E+11	2.88E+08	1.39E-04	8.85E-12
9	27.11	.40	1.64E+15	2.[illegible]E+11	3.69E+08	2.46E-04	8.85E-12
10	30.50	.45	2.23E+15	1.79E+11	4.24E+08	3.50E-04	8.85E-12
11	33.89	.50	2.37E+15	1.67E+11	4.37E+08	3.99E-04	8.85E-12
12	37.28	.55	2.29E+15	1.56E+11	4.30E+08	4.13E-04	8.85E-12
13	40.67	.60	2.08E+15	1.47E+11	4.10E+08	3.99E-04	8.85E-12
14	44.06	.65	1.90E+15	1.39E+11	3.81E+08	3.65E-04	8.85E-12
15	47.45	.70	1.50E+15	1.32E+11	3.48E+08	3.19E-04	8.85E-12
16	50.84	.75	1.19E+15	1.27E+11	3.10E+08	2.65E-04	8.85E-12
17	54.23	.80	9.04E+14	1.22E+11	2.70E+08	2.09E-04	8.85E-12
18	57.62	.85	6.36E+14	1.19E+11	2.26E+08	1.52E-04	8.85E-12
19	61.01	.90	3.99E+14	1.14E+11	1.79E+08	9.82E-05	8.85E-12
20	64.40	.95	2.00E+14	1.12E+11	1.27E+08	5.04E-05	8.85E-12

MAXIMUM CONDUCTIVITY : 3.48E-02 (MHOS/M)

POINT16	NOZZLE RADIUS	ROCKET POSITION : REDEYE	FREQUENCY
3.00 (M)	1.48E-02 (M)	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	2.95E+16	2.43E+11	1.54E+09	3.43E-03	8.84E-12
2	3.39	.05	4.41E+16	2.45E+11	1.89E+09	5.07E-03	8.83E-12
3	6.78	.10	1.10E+17	2.49E+11	2.98E+09	1.25E-02	8.80E-12
4	10.17	.15	2.43E+17	2.50E+11	4.43E+09	2.74E-02	8.74E-12
5	13.56	.20	2.00E+17	2.46E+11	4.02E+09	2.30E-02	8.76E-12
6	16.95	.25	3.25E+16	2.36E+11	1.62E+09	3.87E-03	8.84E-12
7	20.34	.30	2.26E+15	2.24E+11	4.27E+08	2.84E-04	8.85E-12
8	23.73	.35	6.36E+14	2.10E+11	2.26E+08	8.52E-05	8.85E-12
9	27.11	.40	6.49E+14	1.96E+11	2.62E+08	1.22E-04	8.85E-12
10	30.50	.45	1.34E+15	1.83E+11	3.29E+08	2.06E-04	8.85E-12
11	33.89	.50	1.56E+15	1.71E+11	3.55E+08	2.57E-04	8.85E-12
12	37.28	.55	1.61E+15	1.61E+11	3.60E+08	2.82E-04	8.85E-12
13	40.67	.60	1.54E+15	1.51E+11	3.53E+08	2.86E-04	8.85E-12
14	44.06	.65	1.39E+15	1.43E+11	3.34E+08	2.73E-04	8.85E-12
15	47.45	.70	1.21E+15	1.36E+11	3.12E+08	2.50E-04	8.85E-12
16	50.84	.75	1.01E+15	1.30E+11	2.86E+08	2.19E-04	8.85E-12
17	54.23	.80	8.13E+14	1.25E+11	2.57E+08	1.84E-04	8.85E-12
18	57.62	.85	6.31E+14	1.21E+11	2.26E+08	1.47E-04	8.85E-12
19	61.01	.90	4.63E+14	1.17E+11	1.93E+08	1.11E-04	8.85E-12
20	64.40	.95	3.05E+14	1.14E+11	1.57E+08	7.52E-05	8.85E-12

MAXIMUM CONDUCTIVITY : 2.74E-02 (MHOS/M)

POINT 17	NOZZLE RADIUS	POCKET POSITION	REDEYE: 5000(FT)/10(FT/S)	FREQUENCY
3.20 (M)	1.48E-02 (M)	PRESSURE	0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	3.35E+16	2.44E+11	1.64E+09	3.87E-03	8.84E-12
2	3.39	.05	4.77E+16	2.46E+11	1.96E+09	5.47E-03	8.83E-12
3	6.78	.10	1.04E+17	2.49E+11	2.90E+09	1.18E-02	8.81E-12
4	10.17	.15	2.04E+17	2.49E+11	4.05E+09	2.31E-02	8.76E-12
5	13.56	.20	1.58E+17	2.45E+11	3.57E+09	1.82E-02	8.78E-12
6	16.95	.25	2.87E+16	2.36E+11	1.52E+09	3.43E-03	8.84E-12
7	20.34	.30	2.06E+15	2.25E+11	4.07E+08	2.58E-04	8.85E-12
8	23.73	.35	4.81E+14	2.12E+11	1.97E+08	6.39E-05	8.85E-12
9	27.11	.40	5.63E+14	1.99E+11	2.13E+08	7.97E-05	8.85E-12
10	30.50	.45	9.26E+14	1.86E+11	2.73E+08	1.40E-04	8.85E-12
11	33.89	.50	1.13E+15	1.75E+11	3.02E+08	1.82E-04	8.85E-12
12	37.28	.55	1.21E+15	1.64E+11	3.12E+08	2.07E-04	8.85E-12
13	40.67	.60	1.19E+15	1.55E+11	3.10E+08	2.18E-04	8.85E-12
14	44.06	.65	1.11E+15	1.46E+11	3.00E+08	2.15E-04	8.85E-12
15	47.45	.70	9.96E+14	1.40E+11	2.83E+08	2.01E-04	8.85E-12
16	50.84	.75	8.64E+14	1.33E+11	2.64E+08	1.82E-04	8.85E-12
17	54.23	.80	7.27E+14	1.28E+11	2.42E+08	1.60E-04	8.85E-12
18	57.62	.85	5.93E+14	1.24E+11	2.19E+08	1.35E-04	8.85E-12
19	61.01	.90	4.68E+14	1.20E+11	1.94E+08	1.10E-04	8.85E-12
20	64.40	.95	3.54E+14	1.17E+11	1.69E+08	8.49E-05	8.85E-12
21	67.79	1.00	1.88E+14	7.20E+10	1.23E+08	7.34E-05	8.85E-12
22	71.18	1.05	1.44E+14	7.06E+10	1.08E+08	5.72E-05	8.85E-12
23	74.56	1.10	1.08E+14	6.96E+10	9.31E+07	4.35E-05	8.85E-12
24	77.95	1.15	7.18E+13	6.87E+10	7.61E+07	2.94E-05	8.85E-12

MAXIMUM CONDUCTIVITY = 2.31E-02 (MHOS/M)

POINT 18	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
3.40	1.48E-02	POSITION :	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE :	0.832 (ATMOSPHERES	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.30	0.00	3.87E+16	2.44E+11	1.77E+09	4.46E-03	8.84E-12
2	3.39	.05	5.20E+16	2.46E+11	2.05E+09	5.95E-03	8.93E-12
3	6.78	.10	9.90E+16	2.48E+11	2.83E+09	1.12E-02	8.81E-12
4	10.17	.15	1.72E+17	2.48E+11	3.72E+09	1.95E-02	8.79E-12
5	13.56	.20	1.23E+17	2.44E+11	3.15E+09	1.42E-02	8.80E-12
6	16.95	.25	2.31E+16	2.36E+11	1.36E+09	2.75E-03	8.84E-12
7	20.34	.30	1.86E+15	2.26E+11	3.87E+08	2.32E-04	8.85E-12
8	23.73	.35	3.52E+14	2.14E+11	1.69E+08	4.64E-05	8.85E-12
9	27.11	.40	3.71E+14	2.01E+11	1.73E+08	5.19E-05	8.85E-12
10	30.50	.45	6.33E+14	1.89E+11	2.26E+08	9.44E-05	8.85E-12
11	33.89	.50	8.06E+14	1.78E+11	2.55E+08	1.28E-04	8.85E-12
12	37.28	.55	8.92E+14	1.67E+11	2.68E+08	1.50E-04	8.85E-12
13	40.67	.60	9.13E+14	1.58E+11	2.71E+08	1.63E-04	8.85E-12
14	44.06	.65	8.96E+14	1.49E+11	2.67E+08	1.67E-04	8.85E-12
15	47.45	.70	8.16E+14	1.43E+11	2.56E+08	1.61E-04	8.85E-12
16	50.84	.75	7.33E+14	1.37E+11	2.43E+08	1.51E-04	8.85E-12
17	54.23	.80	6.41E+14	1.31E+11	2.27E+08	1.37E-04	8.85E-12
18	57.62	.85	5.49E+14	1.27E+11	2.10E+08	1.22E-04	8.85E-12
19	61.01	.90	4.59E+14	1.23E+11	1.92E+08	1.05E-04	8.85E-12
20	64.40	.95	3.78E+14	1.20E+11	1.75E+08	8.86E-05	8.85E-12
21	67.79	1.00	3.03E+14	1.18E+11	1.56E+08	7.27E-05	8.85E-12
22	71.18	1.05	2.37E+14	1.15E+11	1.38E+08	5.77E-05	8.85E-12
23	74.56	1.10	1.81E+14	1.14E+11	1.21E+08	4.47E-05	8.85E-12
24	77.95	1.15	1.27E+14	1.12E+11	1.01E+08	3.19E-05	8.85E-12
25	81.34	1.20	3.04E+13	2.97E+10	4.95E+07	2.87E-05	8.85E-12
26	84.73	1.25	2.29E+13	2.94E+10	4.30E+07	2.19E-05	8.85E-12
27	88.12	1.30	1.57E+13	2.92E+10	3.56E+07	1.51E-05	8.85E-12

MAXIMUM CONDUCTIVITY : 1.95E-02 (MHOS/M)

POINT 19 (M)	NOZZLE RADIUS (M)	ROCKET POSITION : REDEYE 5000(FT)/10(FT/S) PRESSURE : 0.832 (ATMOSPHERES)	FREQUENCY 2.50E+08 (HZ)
3.60	1.48E-02		

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	4.56E+16	2.45E+11	1.92E+09	5.23E-03	8.83E-12
2	3.39	.05	5.74E+16	2.46E+11	2.15E+09	6.56E-03	8.83E-12
3	6.78	.10	9.62E+16	2.48E+11	2.78E+09	1.09E-02	8.81E-12
4	10.17	.15	1.47E+17	2.47E+11	3.44E+09	1.68E-02	8.79E-12
5	13.56	.20	9.46E+16	2.43E+11	2.76E+09	1.09E-02	8.81E-12
6	16.95	.25	1.77E+16	2.36E+11	1.19E+09	2.11E-03	8.85E-12
7	20.34	.30	1.63E+15	2.26E+11	3.62E+08	2.02E-04	8.85E-12
8	23.73	.35	2.68E+14	2.15E+11	1.47E+08	3.51E-05	8.85E-12
9	27.11	.40	2.72E+14	2.03E+11	1.48E+08	3.78E-05	8.85E-12
10	30.50	.45	4.74E+14	1.91E+11	1.96E+08	6.98E-05	8.85E-12
11	33.89	.50	6.14E+14	1.80E+11	2.22E+08	9.60E-05	8.85E-12
12	37.28	.55	6.93E+14	1.70E+11	2.36E+08	1.15E-04	8.85E-12
13	40.67	.60	7.23E+14	1.61E+11	2.41E+08	1.27E-04	8.85E-12
14	44.06	.65	7.16E+14	1.53E+11	2.40E+08	1.32E-04	8.85E-12
15	47.45	.70	6.80E+14	1.45E+11	2.34E+08	1.32E-04	8.85E-12
16	50.84	.75	6.23E+14	1.39E+11	2.24E+08	1.26E-04	8.85E-12
17	54.23	.80	5.61E+14	1.34E+11	2.13E+08	1.18E-04	8.85E-12
18	57.62	.85	4.93E+14	1.30E+11	1.99E+08	1.07E-04	8.85E-12
19	61.01	.90	4.26E+14	1.26E+11	1.85E+08	9.54E-05	8.85E-12
20	64.40	.95	3.61E+14	1.22E+11	1.71E+08	8.30E-05	8.85E-12
21	67.79	1.00	3.01E+14	1.20E+11	1.56E+08	7.08E-05	8.85E-12
22	71.18	1.05	2.45E+14	1.17E+11	1.41E+08	5.89E-05	8.85E-12
23	74.56	1.10	1.95E+14	1.15E+11	1.25E+08	4.77E-05	8.85E-12
24	77.95	1.15	1.52E+14	1.14E+11	1.11E+08	3.78E-05	8.85E-12
25	81.34	1.20	1.05E+14	1.02E+11	9.18E+07	2.86E-05	8.85E-12
26	84.73	1.25	7.90E+13	1.01E+11	7.98E+07	2.20E-05	8.85E-12
27	88.12	1.30	5.41E+13	1.00E+11	6.60E+07	1.52E-05	8.85E-12

MAXIMUM CONDUCTIVITY : 1.68E-02 (MHOS/M)

POINT 20	NOZZLE RADIUS	ROCKET POSITION & PRESSURE	REDEYE	FREQUENCY
3.90 (M)	1.46E-02 (M)	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)		2.50E+09 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	5.28E+16	2.46E+11	2.06E+09	6.04E-03	8.85E-12
2	3.39	.05	6.32E+16	2.47E+11	2.26E+09	7.21E-03	8.85E-12
3	6.78	.10	9.42E+16	2.48E+11	2.76E+09	1.07E-02	8.85E-12
4	10.17	.15	1.27E+17	2.47E+11	3.20E+09	1.45E-02	8.85E-12
5	13.56	.20	7.44E+16	2.43E+11	2.45E+09	8.64E-03	8.85E-12
6	16.95	.25	1.37E+16	2.36E+11	1.05E+09	1.63E-03	8.85E-12
7	20.34	.30	1.41E+15	2.27E+11	3.37E+08	1.75E-04	8.85E-12
8	23.73	.35	2.08E+14	2.16E+11	1.29E+08	2.71E-05	8.85E-12
9	27.11	.40	1.61E+14	2.05E+11	1.14E+08	2.22E-05	8.85E-12
10	30.50	.45	3.12E+14	1.93E+11	1.59E+08	4.55E-05	8.85E-12
11	33.89	.50	4.63E+14	1.82E+11	1.93E+08	7.15E-05	8.85E-12
12	37.28	.55	5.53E+14	1.72E+11	2.11E+08	9.03E-05	8.85E-12
13	40.67	.60	5.93E+14	1.63E+11	2.13E+08	1.02E-04	8.85E-12
14	44.06	.65	5.99E+14	1.55E+11	2.20E+08	1.09E-04	8.85E-12
15	47.45	.70	5.80E+14	1.48E+11	2.16E+08	1.10E-04	8.85E-12
16	50.84	.75	5.42E+14	1.42E+11	2.09E+08	1.08E-04	8.85E-12
17	54.23	.80	4.95E+14	1.36E+11	2.00E+08	1.02E-04	8.85E-12
18	57.62	.85	4.43E+14	1.32E+11	1.89E+08	9.48E-05	8.85E-12
19	61.01	.90	3.90E+14	1.29E+11	1.77E+08	8.59E-05	8.85E-12
20	64.40	.95	3.37E+14	1.24E+11	1.65E+08	7.64E-05	8.85E-12
21	67.79	1.00	2.87E+14	1.21E+11	1.52E+08	6.66E-05	8.85E-12
22	71.18	1.05	2.41E+14	1.18E+11	1.39E+08	5.76E-05	8.85E-12
23	74.56	1.10	1.98E+14	1.17E+11	1.26E+08	4.77E-05	8.85E-12
24	77.95	1.15	1.59E+14	1.15E+11	1.13E+08	3.90E-05	8.85E-12
25	81.34	1.20	1.25E+14	1.14E+11	1.00E+08	3.10E-05	8.85E-12
26	84.73	1.25	9.60E+13	1.12E+11	8.90E+07	2.41E-05	8.85E-12
27	88.12	1.30	7.08E+13	1.11E+11	7.55E+07	1.79E-05	8.85E-12
28	91.51	1.35	3.23E+13	6.22E+10	5.10E+07	1.46E-05	8.85E-12

MAXIMUM CONDUCTIVITY : 1.45E-02 (MHOS/M)

POINT 21	NOZZLE RADIUS	POCKET	REDEYE	FREQUENCY
4.00	1.48E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	5.97E+16	2.47E+11	2.19E+09	6.82E-03	8.83E-12
2	3.39	.05	6.85E+16	2.47E+11	2.35E+09	7.81E-03	8.92E-12
3	6.78	.10	9.20E+16	2.47E+11	2.72E+09	1.05E-02	8.81E-12
4	10.17	.15	1.09E+17	2.46E+11	2.96E+09	1.25E-02	8.80E-12
5	13.56	.20	5.73E+16	2.42E+11	2.15E+09	6.67E-03	8.83E-12
6	16.95	.25	1.03E+16	2.35E+11	9.10E+08	1.23E-03	8.85E-12
7	20.34	.30	1.19E+15	2.27E+11	3.10E+08	1.48E-04	8.85E-12
8	23.73	.35	1.60E+14	2.17E+11	1.14E+08	2.06E-05	8.85E-12
9	27.11	.40	7.91E+13	2.06E+11	7.93E+07	1.07E-05	8.85E-12
10	30.50	.45	1.86E+14	1.95E+11	1.22E+08	2.69E-05	8.85E-12
11	33.89	.50	3.37E+14	1.85E+11	1.65E+08	5.15E-05	8.85E-12
12	37.28	.55	4.32E+14	1.75E+11	1.87E+08	6.97E-05	8.85E-12
13	40.67	.60	4.81E+14	1.66E+11	1.97E+08	8.18E-05	8.85E-12
14	44.06	.65	4.98E+14	1.58E+11	2.00E+08	8.89E-05	8.85E-12
15	47.45	.70	4.92E+14	1.50E+11	1.99E+08	9.21E-05	8.85E-12
16	50.84	.75	4.69E+14	1.44E+11	1.94E+08	9.16E-05	8.85E-12
17	54.23	.80	4.35E+14	1.39E+11	1.87E+08	8.83E-05	8.85E-12
18	57.62	.85	3.97E+14	1.34E+11	1.79E+08	8.35E-05	8.85E-12
19	61.01	.90	3.55E+14	1.30E+11	1.69E+08	7.78E-05	8.85E-12
20	64.40	.95	3.13E+14	1.26E+11	1.59E+08	6.98E-05	8.85E-12
21	67.79	1.00	2.72E+14	1.23E+11	1.48E+08	6.21E-05	8.85E-12
22	71.18	1.05	2.32E+14	1.21E+11	1.37E+08	5.43E-05	8.85E-12
23	74.56	1.10	1.96E+14	1.18E+11	1.26E+08	4.67E-05	8.85E-12
24	77.95	1.15	1.62E+14	1.16E+11	1.14E+08	3.92E-05	8.85E-12
25	81.34	1.20	1.33E+14	1.15E+11	1.03E+08	3.26E-05	8.85E-12
26	84.73	1.25	1.05E+14	1.13E+11	9.19E+07	2.60E-05	8.85E-12
27	88.12	1.30	8.15E+13	1.12E+11	8.10E+07	2.04E-05	8.85E-12
28	91.51	1.35	6.00E+13	1.11E+11	6.96E+07	1.52E-05	8.85E-12
29	94.90	1.40	1.04E+13	2.35E+10	2.96E+07	1.30E-05	8.85E-12

MAXIMUM CONDUCTIVITY = 1.25E-02 (MHOS/M)

POINT22	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
4.20	1.48E-02	POSITION	5000(FT)/10(FT/S)	2.50E+09
(M)	(M)	PRESSURE	0.032 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	6.60E+16	2.47E+11	2.31E+09	7.54E-03	8.92E-12
2	3.39	.05	7.24E+16	2.47E+11	2.42E+09	8.31E-03	8.82E-12
3	6.78	.10	8.42E+16	2.47E+11	2.68E+09	1.02E-02	8.61E-12
4	10.17	.15	9.23E+16	2.45E+11	2.73E+09	1.06E-02	8.51E-12
5	13.56	.20	4.40E+16	2.41E+11	1.88E+09	5.14E-03	8.93E-12
6	16.95	.25	7.66E+15	2.39E+11	7.86E+08	9.19E-04	8.95E-12
7	20.34	.30	9.93E+14	2.27E+11	2.83E+08	1.23E-04	8.95E-12
8	23.73	.35	1.29E+14	2.17E+11	1.02E+08	1.67E-05	8.95E-12
9	27.11	.40	5.78E+13	2.07E+11	6.32E+07	7.87E-06	8.95E-12
10	30.50	.45	1.34E+14	1.97E+11	1.04E+08	1.92E-05	8.95E-12
11	33.89	.50	2.51E+14	1.86E+11	1.42E+08	3.79E-05	8.95E-12
12	37.28	.55	3.34E+14	1.77E+11	1.64E+08	5.33E-05	8.95E-12
13	40.67	.60	3.95E+14	1.69E+11	1.76E+08	6.47E-05	8.95E-12
14	44.06	.65	4.10E+14	1.60E+11	1.82E+08	7.22E-05	8.95E-12
15	47.45	.70	4.15E+14	1.53E+11	1.83E+08	7.65E-05	8.95E-12
16	50.84	.75	4.05E+14	1.46E+11	1.81E+08	7.81E-05	8.95E-12
17	54.23	.80	3.82E+14	1.41E+11	1.75E+08	7.64E-05	8.95E-12
18	57.62	.85	3.54E+14	1.36E+11	1.69E+08	7.33E-05	8.95E-12
19	61.01	.90	3.22E+14	1.32E+11	1.61E+08	6.89E-05	8.95E-12
20	64.40	.95	2.88E+14	1.29E+11	1.52E+08	6.33E-05	8.95E-12
21	67.79	1.00	2.54E+14	1.25E+11	1.43E+08	5.73E-05	8.95E-12
22	71.18	1.05	2.21E+14	1.22E+11	1.34E+08	5.10E-05	8.95E-12
23	74.56	1.10	1.89E+14	1.20E+11	1.24E+08	4.46E-05	8.95E-12
24	77.95	1.15	1.61E+14	1.18E+11	1.14E+08	3.85E-05	8.95E-12
25	81.34	1.20	1.33E+14	1.16E+11	1.04E+08	3.24E-05	8.95E-12
26	84.73	1.25	1.10E+14	1.14E+11	9.40E+07	2.70E-05	8.95E-12
27	88.12	1.30	8.73E+13	1.13E+11	8.39E+07	2.17E-05	8.95E-12
28	91.51	1.35	6.74E+13	1.12E+11	7.37E+07	1.69E-05	8.95E-12
29	94.90	1.40	4.42E+13	9.53E+10	5.47E+07	1.31E-05	8.95E-12

MAXIMUM CONDUCTIVITY = 1.06E-02 (MHOS/M)

POINT23	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
4.40	1.49E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.01E+16	2.47E+11	2.38E+09	9.01E-03	8.82E-12
2	3.39	.05	7.50E+16	2.47E+11	2.46E+09	8.56E-03	8.82E-12
3	6.78	.10	8.50E+16	2.46E+11	2.62E+09	9.73E-03	8.81E-12
4	10.17	.15	7.73E+16	2.44E+11	2.58E+09	8.92E-03	8.82E-12
5	13.56	.20	3.36E+16	2.40E+11	1.65E+09	3.94E-03	8.84E-12
6	16.95	.25	5.74E+15	2.34E+11	6.90E+08	6.90E-04	8.85E-12
7	20.34	.30	8.21E+14	2.27E+11	2.57E+08	1.02E-04	8.85E-12
8	23.73	.35	1.07E+14	2.18E+11	9.30E+07	1.39E-05	8.85E-12
9	27.11	.40	4.59E+13	2.09E+11	6.08E+07	6.22E-06	8.85E-12
10	30.50	.45	1.03E+14	1.98E+11	9.12E+07	1.47E-05	8.85E-12
11	33.89	.50	1.99E+14	1.89E+11	1.27E+08	2.98E-05	8.85E-12
12	37.28	.55	2.71E+14	1.79E+11	1.48E+08	4.27E-05	8.85E-12
13	40.67	.60	3.19E+14	1.70E+11	1.60E+08	5.29E-05	8.85E-12
14	44.06	.65	3.45E+14	1.62E+11	1.67E+08	6.00E-05	8.85E-12
15	47.45	.70	3.55E+14	1.55E+11	1.69E+08	6.46E-05	8.85E-12
16	50.84	.75	3.52E+14	1.48E+11	1.68E+08	6.68E-05	8.85E-12
17	54.23	.80	3.37E+14	1.43E+11	1.65E+08	6.65E-05	8.85E-12
18	57.62	.85	3.16E+14	1.38E+11	1.60E+08	6.46E-05	8.85E-12
19	61.01	.90	2.91E+14	1.33E+11	1.53E+08	6.15E-05	8.85E-12
20	64.40	.95	2.64E+14	1.30E+11	1.46E+08	5.73E-05	8.85E-12
21	67.79	1.00	2.36E+14	1.26E+11	1.38E+08	5.26E-05	8.85E-12
22	71.18	1.05	2.08E+14	1.24E+11	1.30E+08	4.75E-05	8.85E-12
23	74.56	1.10	1.91E+14	1.21E+11	1.21E+08	4.22E-05	8.85E-12
24	77.95	1.15	1.56E+14	1.19E+11	1.12E+08	3.70E-05	8.85E-12
25	81.34	1.20	1.32E+14	1.17E+11	1.03E+08	3.13E-05	8.85E-12
26	84.73	1.25	1.11E+14	1.16E+11	9.44E+07	2.70E-05	8.85E-12
27	88.12	1.30	9.04E+13	1.14E+11	8.54E+07	2.23E-05	8.85E-12
28	91.51	1.35	7.23E+13	1.13E+11	7.63E+07	1.90E-05	8.85E-12
29	94.90	1.40	5.55E+13	1.12E+11	6.69E+07	1.48E-05	8.85E-12
30	98.29	1.45	2.31E+13	5.62E+10	4.31E+07	1.16E-05	8.85E-12
31	101.68	1.50	1.63E+13	5.57E+10	3.62E+07	8.22E-06	8.85E-12
32	105.07	1.55	1.08E+13	5.53E+10	2.95E+07	5.49E-06	8.85E-12
33	108.46	1.60	5.74E+12	5.50E+10	2.15E+07	2.94E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 9.73E-03 (MHOS/M)

POINT 24	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
4.60	1.48E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.932 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.29E+16	2.47E+11	2.42E+09	9.32E-03	8.82E-12
2	3.39	.05	7.57E+16	2.46E+11	2.47E+09	9.66E-03	8.82E-12
3	6.78	.10	7.97E+16	2.46E+11	2.53E+09	9.15E-03	8.82E-12
4	10.17	.15	6.30E+16	2.43E+11	2.25E+09	7.29E-03	8.82E-12
5	13.56	.20	2.47E+16	2.40E+11	1.41E+09	2.91E-03	8.84E-12
6	16.95	.25	4.17E+15	2.34E+11	5.80E+08	5.02E-04	8.85E-12
7	20.34	.30	6.66E+14	2.26E+11	2.32E+08	9.29E-05	8.85E-12
8	23.73	.35	9.00E+13	2.18E+11	9.52E+07	1.16E-05	8.85E-12
9	27.11	.40	3.72E+13	2.08E+11	5.48E+07	5.03E-06	8.85E-12
10	30.50	.45	8.12E+13	1.99E+11	9.09E+07	1.15E-05	8.85E-12
11	33.89	.50	1.60E+14	1.89E+11	1.14E+08	2.38E-05	8.85E-12
12	37.28	.55	2.22E+14	1.80E+11	1.34E+08	3.47E-05	8.85E-12
13	40.67	.60	2.65E+14	1.72E+11	1.46E+08	4.35E-05	8.85E-12
14	44.06	.65	2.91E+14	1.64E+11	1.53E+08	5.01E-05	8.85E-12
15	47.45	.70	3.03E+14	1.57E+11	1.56E+08	5.45E-05	8.85E-12
16	50.84	.75	3.05E+14	1.50E+11	1.57E+08	5.71E-05	8.85E-12
17	54.23	.80	2.97E+14	1.45E+11	1.55E+08	5.79E-05	8.85E-12
18	57.62	.85	2.81E+14	1.40E+11	1.51E+08	5.67E-05	8.85E-12
19	61.01	.90	2.63E+14	1.35E+11	1.46E+08	5.48E-05	8.85E-12
20	64.40	.95	2.41E+14	1.31E+11	1.39E+08	5.17E-05	8.85E-12
21	67.79	1.00	2.18E+14	1.28E+11	1.33E+08	4.81E-05	8.85E-12
22	71.18	1.05	1.95E+14	1.25E+11	1.25E+08	4.40E-05	8.85E-12
23	74.56	1.10	1.72E+14	1.22E+11	1.18E+08	3.97E-05	8.85E-12
24	77.95	1.15	1.50E+14	1.20E+11	1.10E+08	3.52E-05	8.85E-12
25	81.34	1.20	1.30E+14	1.18E+11	1.02E+08	3.09E-05	8.85E-12
26	84.73	1.25	1.10E+14	1.17E+11	9.42E+07	2.66E-05	8.85E-12
27	88.12	1.30	9.22E+13	1.15E+11	8.62E+07	2.26E-05	8.85E-12
28	91.51	1.35	7.57E+13	1.14E+11	7.91E+07	1.87E-05	8.85E-12
29	94.90	1.40	6.11E+13	1.13E+11	6.96E+07	1.50E-05	8.85E-12
30	98.29	1.45	4.67E+13	1.12E+11	6.13E+07	1.19E-05	8.85E-12
31	101.68	1.50	3.35E+13	1.11E+11	5.20E+07	9.53E-06	8.85E-12
32	105.07	1.55	2.29E+13	1.10E+11	4.29E+07	5.83E-06	8.85E-12
33	108.46	1.60	1.29E+13	1.09E+11	3.23E+07	3.32E-06	8.85E-12
34	111.85	1.65	2.16E+12	1.06E+10	1.32E+07	3.63E-06	8.85E-12
35	115.24	1.70	1.09E+12	1.66E+10	9.39E+06	1.85E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 9.15E-03 (MHOS/M)

POINT 25	NOZZLE RADIUS	ROCKET POSITION	REDEYE 5000(FT)/10(FT/S)	FREQUENCY
4.49 (M)	1.40E-02 (M)	PRESSURE : 0.832 (ATMOSPHERES)		2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.28E+16	2.46E+11	2.42E+09	8.33E-03	8.82E-12
2	3.39	.05	7.40E+16	2.46E+11	2.44E+09	8.48E-03	8.82E-12
3	6.78	.10	7.17E+16	2.45E+11	2.40E+09	8.26E-03	8.82E-12
4	10.17	.15	5.80E+16	2.43E+11	2.01E+09	5.80E-03	8.83E-12
5	13.56	.20	1.91E+16	2.39E+11	1.21E+09	2.13E-03	8.85E-12
6	16.95	.25	3.09E+15	2.33E+11	4.98E+08	3.71E-04	8.85E-12
7	20.34	.30	5.41E+14	2.26E+11	2.09E+08	6.73E-05	8.85E-12
8	23.73	.35	7.75E+13	2.18E+11	7.90E+07	1.00E-05	8.85E-12
9	27.11	.40	3.16E+13	2.09E+11	5.04E+07	4.25E-06	8.85E-12
10	30.50	.45	6.64E+13	2.00E+11	7.31E+07	9.36E-06	8.85E-12
11	33.89	.50	1.34E+14	1.91E+11	1.04E+08	1.98E-05	8.85E-12
12	37.28	.55	1.88E+14	1.82E+11	1.23E+08	2.91E-05	8.85E-12
13	40.67	.60	2.37E+14	1.73E+11	1.35E+08	3.68E-05	8.85E-12
14	44.06	.65	2.52E+14	1.65E+11	1.42E+08	4.28E-05	8.85E-12
15	47.45	.70	2.64E+14	1.59E+11	1.46E+08	4.70E-05	8.85E-12
16	50.84	.75	2.63E+14	1.52E+11	1.47E+08	4.96E-05	8.85E-12
17	54.23	.80	2.64E+14	1.46E+11	1.46E+08	5.08E-05	8.85E-12
18	57.62	.85	2.53E+14	1.41E+11	1.43E+08	5.03E-05	8.85E-12
19	61.01	.90	2.38E+14	1.37E+11	1.38E+08	4.90E-05	8.85E-12
20	64.40	.95	2.21E+14	1.33E+11	1.33E+08	4.64E-05	8.85E-12
21	67.79	1.00	2.02E+14	1.29E+11	1.28E+08	4.39E-05	8.85E-12
22	71.18	1.05	1.92E+14	1.26E+11	1.21E+08	4.07E-05	8.85E-12
23	74.56	1.10	1.63E+14	1.24E+11	1.15E+08	3.71E-05	8.85E-12
24	77.95	1.15	1.44E+14	1.21E+11	1.08E+08	3.33E-05	8.85E-12
25	81.34	1.20	1.25E+14	1.19E+11	1.01E+08	2.96E-05	8.85E-12
26	84.73	1.25	1.08E+14	1.17E+11	9.33E+07	2.59E-05	8.85E-12
27	88.12	1.30	9.21E+13	1.16E+11	8.61E+07	2.24E-05	8.85E-12
28	91.51	1.35	7.67E+13	1.15E+11	7.96E+07	1.89E-05	8.85E-12
29	94.90	1.40	6.32E+13	1.13E+11	7.14E+07	1.57E-05	8.85E-12
30	98.29	1.45	5.03E+13	1.12E+11	6.37E+07	1.26E-05	8.85E-12
31	101.68	1.50	3.99E+13	1.11E+11	5.60E+07	9.84E-06	8.85E-12
32	105.07	1.55	2.96E+13	1.11E+11	4.80E+07	7.27E-06	8.85E-12
33	108.46	1.60	1.93E+13	1.10E+11	3.95E+07	4.95E-06	8.85E-12
34	111.85	1.65	1.14E+13	8.76E+10	3.03E+07	3.66E-06	8.85E-12
35	115.24	1.70	5.77E+12	8.72E+10	2.16E+07	1.96E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 8.48E-03 (MHOS/M)

POINT26	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
5.00	1.48E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.932 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	6.94E+16	2.46E+11	2.37E+09	8.01E-03	8.82E-12
2	3.39	.05	6.92E+16	2.45E+11	2.36E+09	7.95E-03	8.82E-12
3	6.78	.10	6.16E+16	2.44E+11	2.23E+09	7.13E-03	8.82E-12
4	10.17	.15	3.85E+16	2.42E+11	1.76E+09	4.49E-03	8.84E-12
5	13.56	.20	1.30E+16	2.39E+11	1.03E+09	1.54E-03	8.85E-12
6	16.95	.25	2.35E+15	2.33E+11	4.35E+08	2.84E-04	8.85E-12
7	20.34	.30	4.37E+14	2.26E+11	1.88E+08	5.45E-05	8.85E-12
8	23.73	.35	7.00E+13	2.18E+11	7.51E+07	9.05E-06	8.85E-12
9	27.11	.40	2.71E+13	2.09E+11	4.68E+07	3.65E-06	8.85E-12
10	30.50	.45	5.49E+13	2.01E+11	5.65E+07	7.71E-06	8.85E-12
11	33.89	.50	1.13E+14	1.92E+11	9.56E+07	1.67E-05	8.85E-12
12	37.28	.55	1.61E+14	1.83E+11	1.14E+08	2.40E-05	8.85E-12
13	40.67	.60	1.96E+14	1.75E+11	1.26E+08	3.16E-05	8.85E-12
14	44.06	.65	2.20E+14	1.67E+11	1.33E+08	3.70E-05	8.85E-12
15	47.45	.70	2.33E+14	1.60E+11	1.37E+08	4.09E-05	8.85E-12
16	50.84	.75	2.38E+14	1.54E+11	1.38E+08	4.35E-05	8.85E-12
17	54.23	.80	2.36E+14	1.48E+11	1.38E+08	4.49E-05	8.85E-12
18	57.62	.85	2.28E+14	1.43E+11	1.36E+08	4.50E-05	8.85E-12
19	61.01	.90	2.16E+14	1.38E+11	1.32E+08	4.41E-05	8.85E-12
20	64.40	.95	2.03E+14	1.34E+11	1.29E+08	4.25E-05	8.85E-12
21	67.79	1.00	1.87E+14	1.31E+11	1.23E+08	4.02E-05	8.85E-12
22	71.18	1.05	1.70E+14	1.28E+11	1.17E+08	3.76E-05	8.85E-12
23	74.56	1.10	1.53E+14	1.25E+11	1.11E+08	3.46E-05	8.85E-12
24	77.95	1.15	1.37E+14	1.22E+11	1.05E+08	3.15E-05	8.85E-12
25	81.34	1.20	1.21E+14	1.20E+11	9.86E+07	2.82E-05	8.85E-12
26	84.73	1.25	1.05E+14	1.19E+11	9.21E+07	2.50E-05	8.85E-12
27	88.12	1.30	9.07E+13	1.17E+11	8.55E+07	2.19E-05	8.85E-12
28	91.51	1.35	7.71E+13	1.15E+11	7.88E+07	1.88E-05	8.85E-12
29	94.90	1.40	6.47E+13	1.14E+11	7.22E+07	1.60E-05	8.85E-12
30	98.29	1.45	5.29E+13	1.13E+11	6.53E+07	1.32E-05	8.85E-12
31	101.68	1.50	4.25E+13	1.12E+11	5.85E+07	1.07E-05	8.85E-12
32	105.07	1.55	3.27E+13	1.11E+11	5.13E+07	9.28E-06	8.85E-12
33	108.46	1.60	2.42E+13	1.11E+11	4.41E+07	6.16E-06	8.85E-12
34	111.85	1.65	1.67E+13	1.10E+11	3.67E+07	4.29E-06	8.85E-12
35	115.24	1.70	1.03E+13	1.09E+11	2.98E+07	2.66E-06	8.85E-12
36	118.63	1.75	3.12E+12	4.95E+10	1.78E+07	2.23E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 8.01E-03 (MHOS/M)

POINT27	NOZZLE RADIUS	POCKET POSITION	REDEYE	FREQUENCY
5.20 (M)	1.48E-02 (M)	PRESSURE	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	6.47E+16	2.45E+11	2.28E+09	7.45E-03	8.82E-12
2	3.39	.05	6.22E+16	2.44E+11	2.24E+09	7.18E-03	8.82E-12
3	6.78	.10	5.08E+16	2.43E+11	2.02E+09	5.89E-03	8.83E-12
4	10.17	.15	2.83E+16	2.41E+11	1.51E+09	3.31E-03	8.84E-12
5	13.56	.20	9.00E+15	2.37E+11	8.52E+08	1.07E-03	8.85E-12
6	16.95	.25	1.81E+15	2.32E+11	3.82E+08	2.20E-04	8.85E-12
7	20.34	.30	3.48E+14	2.25E+11	1.68E+08	4.35E-05	8.85E-12
8	23.73	.35	6.47E+13	2.18E+11	7.22E+07	8.38E-06	8.85E-12
9	27.11	.40	2.34E+13	2.10E+11	4.34E+07	3.15E-06	8.85E-12
10	30.50	.45	4.53E+13	2.01E+11	6.05E+07	6.35E-06	8.85E-12
11	33.89	.50	9.63E+13	1.93E+11	8.81E+07	1.41E-05	8.85E-12
12	37.28	.55	1.38E+14	1.84E+11	1.06E+08	2.12E-05	8.85E-12
13	40.67	.60	1.70E+14	1.76E+11	1.17E+08	2.72E-05	8.85E-12
14	44.06	.65	1.92E+14	1.69E+11	1.25E+08	3.21E-05	8.85E-12
15	47.45	.70	2.05E+14	1.62E+11	1.29E+08	3.58E-05	8.85E-12
16	50.84	.75	2.11E+14	1.55E+11	1.30E+08	3.83E-05	8.85E-12
17	54.23	.80	2.11E+14	1.50E+11	1.31E+08	3.98E-05	8.85E-12
18	57.62	.85	2.06E+14	1.44E+11	1.29E+08	4.03E-05	8.85E-12
19	61.01	.90	1.97E+14	1.40E+11	1.26E+08	3.97E-05	8.85E-12
20	64.40	.95	1.86E+14	1.36E+11	1.22E+08	3.86E-05	8.85E-12
21	67.79	1.00	1.73E+14	1.32E+11	1.18E+08	3.69E-05	8.85E-12
22	71.18	1.05	1.59E+14	1.29E+11	1.13E+08	3.47E-05	8.85E-12
23	74.56	1.10	1.44E+14	1.26E+11	1.08E+08	3.23E-05	8.85E-12
24	77.95	1.15	1.30E+14	1.24E+11	1.02E+08	2.96E-05	8.85E-12
25	81.34	1.20	1.16E+14	1.21E+11	9.65E+07	2.68E-05	8.85E-12
26	84.73	1.25	1.02E+14	1.20E+11	9.08E+07	2.41E-05	8.85E-12
27	88.12	1.30	8.89E+13	1.18E+11	8.46E+07	2.13E-05	8.85E-12
28	91.51	1.35	7.69E+13	1.16E+11	7.88E+07	1.86E-05	8.85E-12
29	94.90	1.40	6.53E+13	1.15E+11	7.26E+07	1.60E-05	8.85E-12
30	98.29	1.45	5.49E+13	1.14E+11	6.65E+07	1.36E-05	8.85E-12
31	101.68	1.50	4.50E+13	1.13E+11	6.03E+07	1.13E-05	8.85E-12
32	105.07	1.55	3.59E+13	1.12E+11	5.38E+07	9.05E-06	8.85E-12
33	108.46	1.60	2.80E+13	1.11E+11	4.75E+07	7.11E-06	8.85E-12
34	111.85	1.65	2.03E+13	1.10E+11	4.04E+07	5.17E-06	8.85E-12
35	115.24	1.70	1.46E+13	1.10E+11	3.43E+07	3.73E-06	8.85E-12
36	118.63	1.75	9.14E+12	1.09E+11	2.71E+07	2.33E-06	8.85E-12
37	122.01	1.80	9.43E+11	1.17E+10	8.72E+06	2.23E-06	8.85E-12
38	125.40	1.85	4.83E+11	1.17E+10	6.24E+06	1.15E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 7.45E-03 (MHOS/M)

#POINT20#	NOZZLE RADIUS	#POCKET	REDEYE	FREQUENCY
5.40	1.40E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	5.57E+16	2.44E+11	2.12E+09	6.43E-03	8.85E-12
2	3.39	.05	5.20E+16	2.44E+11	2.05E+09	6.02E-03	8.85E-12
3	6.78	.10	3.94E+16	2.42E+11	1.78E+09	4.58E-03	8.85E-12
4	10.17	.15	2.04E+16	2.40E+11	1.28E+09	2.40E-03	8.85E-12
5	13.56	.20	6.36E+15	2.36E+11	7.16E+08	7.59E-04	8.85E-12
6	16.95	.25	1.40E+15	2.31E+11	3.36E+09	1.70E-04	8.85E-12
7	20.34	.30	2.81E+14	2.25E+11	1.51E+09	3.52E-05	8.85E-12
8	23.73	.35	5.86E+13	2.18E+11	6.87E+07	7.58E-06	8.85E-12
9	27.11	.40	2.06E+13	2.10E+11	4.07E+07	2.76E-06	8.85E-12
10	30.50	.45	3.82E+13	2.02E+11	5.55E+07	5.33E-06	8.85E-12
11	33.89	.50	8.34E+13	1.93E+11	8.20E+07	1.22E-05	8.85E-12
12	37.28	.55	1.21E+14	1.85E+11	9.98E+07	1.84E-05	8.85E-12
13	40.67	.60	1.50E+14	1.77E+11	1.10E+08	2.39E-05	8.85E-12
14	44.06	.65	1.71E+14	1.70E+11	1.17E+08	2.84E-05	8.85E-12
15	47.45	.70	1.84E+14	1.63E+11	1.22E+08	3.18E-05	8.85E-12
16	50.84	.75	1.90E+14	1.57E+11	1.24E+08	3.42E-05	8.85E-12
17	54.23	.80	1.91E+14	1.51E+11	1.24E+08	3.57E-05	8.85E-12
18	57.62	.85	1.88E+14	1.46E+11	1.23E+08	3.64E-05	8.85E-12
19	61.01	.90	1.81E+14	1.41E+11	1.21E+08	3.61E-05	8.85E-12
20	64.40	.95	1.72E+14	1.37E+11	1.18E+08	3.53E-05	8.85E-12
21	67.79	1.00	1.61E+14	1.33E+11	1.14E+08	3.40E-05	8.85E-12
22	71.18	1.05	1.49E+14	1.30E+11	1.10E+08	3.22E-05	8.85E-12
23	74.56	1.10	1.36E+14	1.27E+11	1.05E+08	3.02E-05	8.85E-12
24	77.95	1.15	1.23E+14	1.25E+11	9.98E+07	2.79E-05	8.85E-12
25	81.34	1.20	1.11E+14	1.22E+11	9.45E+07	2.55E-05	8.85E-12
26	84.73	1.25	9.86E+13	1.20E+11	8.91E+07	2.31E-05	8.85E-12
27	88.12	1.30	8.68E+13	1.19E+11	8.36E+07	2.06E-05	8.85E-12
28	91.51	1.35	7.56E+13	1.17E+11	7.81E+07	1.82E-05	8.85E-12
29	94.90	1.40	6.52E+13	1.16E+11	7.25E+07	1.59E-05	8.85E-12
30	98.29	1.45	5.56E+13	1.15E+11	6.69E+07	1.37E-05	8.85E-12
31	101.68	1.50	4.68E+13	1.13E+11	6.11E+07	1.15E-05	8.85E-12
32	105.07	1.55	3.82E+13	1.12E+11	5.55E+07	9.57E-06	8.85E-12
33	108.46	1.60	3.04E+13	1.12E+11	4.95E+07	7.60E-06	8.85E-12
34	111.85	1.65	2.36E+13	1.11E+11	4.36E+07	5.98E-06	8.85E-12
35	115.24	1.70	1.75E+13	1.10E+11	3.75E+07	4.46E-06	8.85E-12
36	118.63	1.75	1.20E+13	1.10E+11	3.11E+07	3.09E-06	8.85E-12
37	122.01	1.80	6.99E+12	1.09E+10	2.32E+07	2.27E-06	8.85E-12
38	125.40	1.85	3.42E+12	8.26E+10	1.66E+07	1.17E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 6.43E-03 (MHOS/M)

POINT29	NOZZLE RADIUS	ROCKET POSITION	REDEYE 5000(FT)/10(FT/S)	FREQUENCY
5.60 (M)	1.40E-02 (M)	PRESSURE	0.032 (ATMOSPHERES)	2.50E+09 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	4.54E+16	2.43E+11	1.91E+09	5.26E-03	8.83E-12
2	3.39	.05	4.13E+16	2.43E+11	1.82E+09	4.79E-03	8.83E-12
3	6.78	.10	2.93E+16	2.41E+11	1.54E+09	3.42E-03	8.84E-12
4	10.17	.15	1.43E+16	2.39E+11	1.08E+09	1.69E-03	8.85E-12
5	13.56	.20	4.43E+15	2.35E+11	5.98E+08	5.30E-04	8.85E-12
6	16.95	.25	1.07E+15	2.31E+11	2.93E+08	1.30E-04	8.85E-12
7	20.34	.30	2.27E+14	2.29E+11	1.35E+08	2.84E-05	8.85E-12
8	23.73	.35	5.24E+13	2.19E+11	6.50E+07	6.73E-06	8.85E-12
9	27.11	.40	1.73E+13	2.10E+11	3.73E+07	2.32E-06	8.85E-12
10	30.50	.45	2.55E+13	2.02E+11	4.54E+07	3.56E-06	8.85E-12
11	33.89	.50	6.15E+13	1.94E+11	7.04E+07	8.93E-06	8.85E-12
12	37.28	.55	9.99E+13	1.86E+11	8.97E+07	1.51E-05	8.85E-12
13	40.67	.60	1.30E+14	1.78E+11	1.02E+08	2.05E-05	8.85E-12
14	44.06	.65	1.51E+14	1.71E+11	1.10E+08	2.48E-05	8.85E-12
15	47.45	.70	1.65E+14	1.64E+11	1.15E+08	2.82E-05	8.85E-12
16	50.84	.75	1.72E+14	1.59E+11	1.18E+08	3.06E-05	8.85E-12
17	54.23	.80	1.74E+14	1.53E+11	1.18E+08	3.21E-05	8.85E-12
18	57.62	.85	1.72E+14	1.47E+11	1.18E+08	3.30E-05	8.85E-12
19	61.01	.90	1.67E+14	1.43E+11	1.16E+08	3.29E-05	8.85E-12
20	64.40	.95	1.59E+14	1.38E+11	1.13E+08	3.24E-05	8.85E-12
21	67.79	1.00	1.50E+14	1.35E+11	1.10E+08	3.14E-05	8.85E-12
22	71.18	1.05	1.39E+14	1.31E+11	1.06E+08	2.99E-05	8.85E-12
23	74.56	1.10	1.29E+14	1.28E+11	1.02E+08	2.82E-05	8.85E-12
24	77.95	1.15	1.17E+14	1.26E+11	9.72E+07	2.63E-05	8.85E-12
25	81.34	1.20	1.06E+14	1.23E+11	9.25E+07	2.42E-05	8.85E-12
26	84.73	1.25	9.50E+13	1.21E+11	8.75E+07	2.21E-05	8.85E-12
27	88.12	1.30	8.45E+13	1.20E+11	8.25E+07	1.99E-05	8.85E-12
28	91.51	1.35	7.42E+13	1.19E+11	7.74E+07	1.77E-05	8.85E-12
29	94.90	1.40	6.47E+13	1.16E+11	7.22E+07	1.57E-05	8.85E-12
30	98.29	1.45	5.58E+13	1.15E+11	6.70E+07	1.36E-05	8.85E-12
31	101.68	1.50	4.73E+13	1.14E+11	6.18E+07	1.17E-05	8.85E-12
32	105.07	1.55	3.97E+13	1.13E+11	5.66E+07	9.9CE-06	8.85E-12
33	108.46	1.60	3.24E+13	1.12E+11	5.11E+07	8.15E-06	8.85E-12
34	111.85	1.65	2.61E+13	1.11E+11	4.58E+07	6.59E-06	8.85E-12
35	115.24	1.70	2.00E+13	1.11E+11	4.01E+07	5.06E-06	8.85E-12
36	118.63	1.75	1.47E+13	1.10E+11	3.44E+07	3.76E-06	8.85E-12
37	122.01	1.80	1.01E+13	1.10E+11	2.85E+07	2.59E-06	8.85E-12
38	125.40	1.85	5.98E+12	1.09E+11	2.20E+07	1.54E-06	8.85E-12
39	128.79	1.90	1.42E+12	4.47E+10	1.21E+07	1.15E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 5.26E-03 (MHOS/M)

POINT30	NOZZLE RADIUS	POCKET POSITION	REDEYE	FREQUENCY
5.80 (M)	1.49E-02 (M)	PRESSURE	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	3.44E+16	2.42E+11	1.66E+09	4.00E-03	8.84E-12
2	3.39	.05	3.04E+16	2.42E+11	1.57E+09	3.54E-03	8.84E-12
3	6.78	.10	2.03E+16	2.40E+11	1.28E+09	2.38E-03	8.84E-12
4	10.17	.15	9.51E+15	2.38E+11	8.76E+08	1.13E-03	8.85E-12
5	13.56	.20	2.98E+15	2.34E+11	4.90E+08	3.58E-04	8.85E-12
6	16.95	.25	7.95E+14	2.30E+11	2.53E+08	9.75E-05	8.85E-12
7	20.34	.30	1.90E+14	2.24E+11	1.21E+08	2.27E-05	8.85E-12
8	23.73	.35	4.61E+13	2.17E+11	6.10E+07	5.59E-06	8.85E-12
9	27.11	.40	1.40E+13	2.10E+11	3.36E+07	1.87E-06	8.85E-12
10	30.50	.45	1.15E+13	2.02E+11	2.96E+07	1.53E-06	8.85E-12
11	33.89	.50	3.61E+13	1.95E+11	5.39E+07	5.22E-06	8.85E-12
12	37.28	.55	7.72E+13	1.87E+11	7.89E+07	1.16E-05	8.85E-12
13	40.67	.60	1.09E+14	1.79E+11	9.38E+07	1.71E-05	8.85E-12
14	44.06	.65	1.32E+14	1.72E+11	1.03E+08	2.16E-05	8.85E-12
15	47.45	.70	1.47E+14	1.66E+11	1.09E+08	2.49E-05	8.85E-12
16	50.84	.75	1.55E+14	1.60E+11	1.12E+08	2.73E-05	8.85E-12
17	54.23	.80	1.58E+14	1.54E+11	1.13E+08	2.89E-05	8.85E-12
18	57.62	.85	1.58E+14	1.49E+11	1.13E+08	2.99E-05	8.85E-12
19	61.01	.90	1.54E+14	1.44E+11	1.11E+08	3.01E-05	8.85E-12
20	64.40	.95	1.47E+14	1.40E+11	1.09E+08	2.97E-05	8.85E-12
21	67.79	1.00	1.40E+14	1.36E+11	1.06E+08	2.90E-05	8.85E-12
22	71.19	1.05	1.31E+14	1.33E+11	1.03E+08	2.78E-05	8.85E-12
23	74.58	1.10	1.21E+14	1.30E+11	9.89E+07	2.64E-05	8.85E-12
24	77.95	1.15	1.11E+14	1.27E+11	9.49E+07	2.48E-05	8.85E-12
25	81.34	1.20	1.01E+14	1.24E+11	9.04E+07	2.30E-05	8.85E-12
26	84.73	1.25	9.14E+13	1.22E+11	8.59E+07	2.11E-05	8.85E-12
27	88.12	1.30	8.20E+13	1.20E+11	8.13E+07	1.92E-05	8.85E-12
28	91.51	1.35	7.25E+13	1.19E+11	7.65E+07	1.72E-05	8.85E-12
29	94.90	1.40	6.40E+13	1.17E+11	7.19E+07	1.54E-05	8.85E-12
30	98.29	1.45	5.56E+13	1.16E+11	6.69E+07	1.35E-05	8.85E-12
31	101.68	1.50	4.81E+13	1.15E+11	6.22E+07	1.18E-05	8.85E-12
32	105.07	1.55	4.08E+13	1.14E+11	5.73E+07	1.01E-05	8.85E-12
33	108.46	1.60	3.42E+13	1.13E+11	5.25E+07	8.53E-06	8.85E-12
34	111.85	1.65	2.80E+13	1.12E+11	4.75E+07	7.06E-06	8.85E-12
35	115.24	1.70	2.22E+13	1.11E+11	4.23E+07	5.63E-06	8.85E-12
36	118.63	1.75	1.72E+13	1.11E+11	3.72E+07	4.38E-06	8.85E-12
37	122.01	1.80	1.22E+13	1.10E+11	3.13E+07	3.12E-06	8.85E-12
38	125.40	1.85	8.31E+12	1.09E+11	2.59E+07	2.14E-06	8.85E-12
39	128.79	1.90	4.16E+12	1.02E+11	1.93E+07	1.15E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 4.00E-03 (MHOS/M)

#POINT31#	NOZZLE RADIUS	#POCKET	REDEYE	#	FREQUENCY	#
# 6.00 #	1.48E-02	#POSITION	5000(FT)/10(FT/S)	#	2.50E+08	#
# (M) #	(M)	#PRESSURE	0.832 (ATMOSPHERES)	#	(HZ)	#

# RADIAL INDEX #	RELATIVE RADIUS *	ABSOLUTE RADIUS (M) #	ELECTRON DENSITY (1/M3) *	COLLISION FREQUENCY (1/S) #	PLASMA FREQUENCY (1/S) #	SIGMA (MHO/M) *	EPSILON (FD/M) #
# 1 #	0.00 *	0.00 #	2.44E+16*	2.41E+11#	1.41E+09#	2.90E-03*	8.84E-12#
# 2 #	3.39 *	.05 #	2.16E+16*	2.41E+11#	1.32E+09#	2.53E-03*	8.84E-12#
# 3 #	6.78 *	.10 #	1.41E+16*	2.39E+11#	1.07E+09#	1.66E-03*	8.85E-12#
# 4 #	10.17 *	.15 #	6.59E+15*	2.37E+11#	7.29E+08#	7.83E-04*	8.85E-12#
# 5 #	13.56 *	.20 #	2.12E+15*	2.34E+11#	4.14E+08#	2.56E-04*	8.85E-12#
# 6 #	16.95 *	.25 #	6.10E+14*	2.29E+11#	2.22E+08#	7.51E-05*	8.85E-12#
# 7 #	20.34 *	.30 #	1.47E+14*	2.23E+11#	1.09E+08#	1.85E-05*	8.85E-12#
# 8 #	23.73 *	.35 #	4.05E+13*	2.17E+11#	5.72E+07#	5.26E-06*	8.85E-12#
# 9 #	27.11 *	.40 #	1.23E+13*	2.10E+11#	3.15E+07#	1.65E-06*	8.85E-12#
# 10 #	30.50 *	.45 #	9.22E+12*	2.05E+11#	2.73E+07#	1.28E-06*	8.85E-12#
# 11 #	33.89 *	.50 #	2.91E+13*	1.95E+11#	4.94E+07#	4.20E-06*	8.85E-12#
# 12 #	37.29 *	.55 #	6.46E+13*	1.88E+11#	7.22E+07#	9.71E-06*	8.85E-12#
# 13 #	40.67 *	.60 #	9.35E+13*	1.80E+11#	8.58E+07#	1.46E-05*	8.85E-12#
# 14 #	44.06 *	.65 #	1.15E+14*	1.73E+11#	9.63E+07#	1.87E-05*	8.85E-12#
# 15 #	47.45 *	.70 #	1.30E+14*	1.67E+11#	1.02E+08#	2.20E-05*	8.85E-12#
# 16 #	50.84 *	.75 #	1.39E+14*	1.61E+11#	1.06E+08#	2.44E-05*	8.85E-12#
# 17 #	54.23 *	.80 #	1.44E+14*	1.55E+11#	1.08E+08#	2.61E-05*	8.85E-12#
# 18 #	57.62 *	.85 #	1.44E+14*	1.50E+11#	1.08E+08#	2.71E-05*	8.85E-12#
# 19 #	61.01 *	.90 #	1.42E+14*	1.45E+11#	1.07E+08#	2.76E-05*	8.85E-12#
# 20 #	64.40 *	.95 #	1.37E+14*	1.41E+11#	1.05E+08#	2.74E-05*	8.85E-12#
# 21 #	67.79 *	1.00 #	1.31E+14*	1.37E+11#	1.03E+08#	2.69E-05*	8.85E-12#
# 22 #	71.18 *	1.05 #	1.23E+14*	1.34E+11#	9.97E+07#	2.60E-05*	8.85E-12#
# 23 #	74.56 *	1.10 #	1.15E+14*	1.31E+11#	9.62E+07#	2.47E-05*	8.85E-12#
# 24 #	77.95 *	1.15 #	1.06E+14*	1.29E+11#	9.24E+07#	2.34E-05*	8.85E-12#
# 25 #	81.34 *	1.20 #	9.79E+13*	1.25E+11#	8.84E+07#	2.18E-05*	8.85E-12#
# 26 #	84.73 *	1.25 #	8.81E+13*	1.23E+11#	8.43E+07#	2.02E-05*	8.85E-12#
# 27 #	88.12 *	1.30 #	7.94E+13*	1.21E+11#	8.00E+07#	1.84E-05*	8.85E-12#
# 28 #	91.51 *	1.35 #	7.09E+13*	1.19E+11#	7.56E+07#	1.67E-05*	8.85E-12#
# 29 #	94.90 *	1.40 #	6.29E+13*	1.18E+11#	7.12E+07#	1.50E-05*	8.85E-12#
# 30 #	98.29 *	1.45 #	5.51E+13*	1.17E+11#	6.67E+07#	1.33E-05*	8.85E-12#
# 31 #	101.68 *	1.50 #	4.91E+13*	1.15E+11#	6.23E+07#	1.17E-05*	8.85E-12#
# 32 #	105.07 *	1.55 #	4.12E+13*	1.14E+11#	5.77E+07#	1.02E-05*	8.85E-12#
# 33 #	108.46 *	1.60 #	3.52E+13*	1.13E+11#	5.32E+07#	8.74E-06*	8.85E-12#
# 34 #	111.85 *	1.65 #	2.92E+13*	1.12E+11#	4.85E+07#	7.32E-06*	8.85E-12#
# 35 #	115.24 *	1.70 #	2.40E+13*	1.12E+11#	4.40E+07#	6.06E-06*	8.85E-12#
# 36 #	118.63 *	1.75 #	1.91E+13*	1.11E+11#	3.93E+07#	4.85E-06*	8.85E-12#
# 37 #	122.01 *	1.80 #	1.48E+13*	1.10E+11#	3.43E+07#	3.72E-06*	8.85E-12#
# 38 #	125.40 *	1.85 #	1.05E+13*	1.10E+11#	2.92E+07#	2.70E-06*	8.85E-12#
# 39 #	128.79 *	1.90 #	1.25E+12*	3.06E+10#	1.00E+07#	1.15E-06*	8.85E-12#

MAXIMUM CONDUCTIVITY : 2.90E-03 (MHOS/M)

#POINTS2# 6.20 # (M) #	NOZZLE RADIUS 1.48E-02 (M)	#ROCKET POSITION : 5000(FT)/10(FT/S) # PRESSURE : 0.832 (ATMOSPHERES)#	REDEYE	FREQUENCY 2.50E+08 (HZ)

# RADIAL INDEX #	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.71E+16	2.40E+11	1.17E+09	2.00E-03	8.85E-12
2	3.39	.05	1.47E+16	2.40E+11	1.09E+09	1.73E-03	8.85E-12
3	6.78	.10	9.45E+15	2.38E+11	8.73E+08	1.12E-03	8.85E-12
4	10.17	.15	4.42E+15	2.36E+11	5.97E+08	5.28E-04	8.85E-12
5	13.56	.20	1.50E+15	2.33E+11	3.48E+08	1.82E-04	8.85E-12
6	16.95	.25	4.63E+14	2.29E+11	1.93E+08	5.72E-05	8.85E-12
7	20.34	.30	1.19E+14	2.23E+11	9.80E+07	1.51E-05	8.85E-12
8	23.73	.35	3.55E+13	2.17E+11	5.35E+07	4.61E-06	8.85E-12
9	27.11	.40	1.11E+13	2.10E+11	2.99E+07	1.49E-06	8.85E-12
10	30.50	.45	7.54E+12	2.03E+11	2.51E+07	1.09E-06	8.85E-12
11	33.89	.50	2.37E+13	1.9[illegible]E+11	4.37E+07	3.41E-06	8.85E-12
12	37.28	.55	5.47E+13	1.89E+11	6.64E+07	8.19E-06	8.85E-12
13	40.67	.60	8.07E+13	1.81E+11	8.07E+07	1.26E-05	8.85E-12
14	44.06	.65	1.01E+14	1.74E+11	9.02E+07	1.63E-05	8.85E-12
15	47.45	.70	1.16E+14	1.68E+11	9.65E+07	1.94E-05	8.85E-12
16	50.84	.75	1.25E+14	1.62E+11	1.00E+08	2.18E-05	8.85E-12
17	54.23	.80	1.30E+14	1.56E+11	1.03E+08	2.35E-05	8.85E-12
18	57.62	.85	1.32E+14	1.51E+11	1.03E+08	2.47E-05	8.85E-12
19	61.01	.90	1.31E+14	1.46E+11	1.03E+08	2.53E-05	8.85E-12
20	64.40	.95	1.27E+14	1.42E+11	1.01E+08	2.52E-05	8.85E-12
21	67.79	1.00	1.22E+14	1.38E+11	9.92E+07	2.49E-05	8.85E-12
22	71.18	1.05	1.16E+14	1.35E+11	9.66E+07	2.42E-05	8.85E-12
23	74.56	1.10	1.08E+14	1.32E+11	9.35E+07	2.32E-05	8.85E-12
24	77.95	1.15	1.01E+14	1.29E+11	9.01E+07	2.21E-05	8.85E-12
25	81.34	1.20	9.28E+13	1.26E+11	8.65E+07	2.07E-05	8.85E-12
26	84.73	1.25	8.48E+13	1.24E+11	8.27E+07	1.92E-05	8.85E-12
27	88.12	1.30	7.68E+13	1.22E+11	7.87E+07	1.77E-05	8.85E-12
28	91.51	1.35	6.91E+13	1.20E+11	7.46E+07	1.62E-05	8.85E-12
29	94.90	1.40	6.16E+13	1.19E+11	7.05E+07	1.46E-05	8.85E-12
30	98.29	1.45	5.46E+13	1.17E+11	6.63E+07	1.31E-05	8.85E-12
31	101.68	1.50	4.79E+13	1.16E+11	6.21E+07	1.16E-05	8.85E-12
32	105.07	1.55	4.16E+13	1.15E+11	5.79E+07	1.02E-05	8.85E-12
33	108.46	1.60	3.58E+13	1.14E+11	5.37E+07	8.86E-06	8.85E-12
34	111.85	1.65	3.02E+13	1.13E+11	4.94E+07	7.54E-06	8.85E-12
35	115.24	1.70	2.54E+13	1.12E+11	4.53E+07	6.38E-06	8.85E-12
36	118.63	1.75	2.07E+13	1.11E+11	4.09E+07	5.23E-06	8.85E-12
37	122.01	1.80	1.65E+13	1.11E+11	3.65E+07	4.20E-06	8.85E-12
38	125.40	1.85	1.25E+13	1.10E+11	3.17E+07	3.19E-06	8.85E-12
39	128.79	1.90	4.10E+12	4.12E+10	1.82E+07	2.80E-06	8.85E-12
40	132.18	1.95	2.49E+12	4.10E+10	1.53E+07	1.95E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 2.00E-03 (MHOS/M)

POINT33	NOZZLE RADIUS	ROCKET POSITION	PEDEYE 5000(FT)/10(FT/S)	FREQUENCY
6.40 (M)	1.48E-02 (M)	PRESSURE	0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.09E+16	2.39E+11	9.36E+08	1.28E-03	8.85E-12
2	3.39	.05	9.31E+15	2.38E+11	8.66E+08	1.10E-03	8.85E-12
3	6.78	.10	5.98E+15	2.37E+11	6.94E+08	7.10E-04	8.85E-12
4	10.17	.15	2.86E+15	2.35E+11	4.80E+08	3.43E-04	8.85E-12
5	13.56	.20	1.05E+15	2.32E+11	2.91E+08	1.28E-04	8.85E-12
6	16.95	.25	3.46E+14	2.27E+11	1.67E+08	4.29E-05	8.85E-12
7	20.34	.30	9.59E+13	2.22E+11	8.79E+07	1.22E-05	8.85E-12
8	23.73	.35	3.09E+13	2.16E+11	4.99E+07	4.02E-06	8.85E-12
9	27.11	.40	1.03E+13	2.10E+11	2.88E+07	1.38E-06	8.85E-12
10	30.50	.45	6.74E+12	2.03E+11	2.33E+07	9.36E-07	8.85E-12
11	33.89	.50	1.94E+13	1.96E+11	3.96E+07	2.79E-06	8.85E-12
12	37.28	.55	4.69E+13	1.89E+11	6.15E+07	7.00E-06	8.85E-12
13	40.67	.60	7.03E+13	1.82E+11	7.53E+07	1.09E-05	8.85E-12
14	44.06	.65	8.91E+13	1.75E+11	8.47E+07	1.43E-05	8.85E-12
15	47.45	.70	1.03E+14	1.69E+11	9.11E+07	1.72E-05	8.85E-12
16	50.84	.75	1.13E+14	1.63E+11	9.53E+07	1.95E-05	8.85E-12
17	54.23	.80	1.18E+14	1.57E+11	9.77E+07	2.12E-05	8.85E-12
18	57.62	.85	1.21E+14	1.52E+11	9.87E+07	2.24E-05	8.85E-12
19	61.01	.90	1.21E+14	1.47E+11	9.87E+07	2.31E-05	8.85E-12
20	64.40	.95	1.18E+14	1.43E+11	9.76E+07	2.32E-05	8.85E-12
21	67.79	1.00	1.14E+14	1.39E+11	9.58E+07	2.30E-05	8.85E-12
22	71.18	1.05	1.09E+14	1.36E+11	9.37E+07	2.26E-05	8.85E-12
23	74.56	1.10	1.02E+14	1.33E+11	9.09E+07	2.18E-05	8.85E-12
24	77.95	1.15	9.57E+13	1.30E+11	8.78E+07	2.08E-05	8.85E-12
25	81.34	1.20	8.86E+13	1.27E+11	8.45E+07	1.96E-05	8.85E-12
26	84.73	1.25	8.14E+13	1.25E+11	8.10E+07	1.84E-05	8.85E-12
27	88.12	1.30	7.42E+13	1.23E+11	7.73E+07	1.70E-05	8.85E-12
28	91.51	1.35	6.72E+13	1.21E+11	7.36E+07	1.56E-05	8.85E-12
29	94.90	1.40	6.02E+13	1.19E+11	6.97E+07	1.42E-05	8.85E-12
30	99.29	1.45	5.38E+13	1.18E+11	6.59E+07	1.29E-05	8.85E-12
31	101.68	1.50	4.79E+13	1.17E+11	6.16E+07	1.15E-05	8.85E-12
32	105.07	1.55	4.17E+13	1.15E+11	5.80E+07	1.02E-05	8.85E-12
33	108.46	1.60	3.62E+13	1.14E+11	5.40E+07	8.90E-06	8.85E-12
34	111.85	1.65	3.11E+13	1.13E+11	5.01E+07	7.73E-06	8.85E-12
35	115.24	1.70	2.64E+13	1.13E+11	4.61E+07	6.60E-06	8.85E-12
36	118.63	1.75	2.20E+13	1.12E+11	4.21E+07	5.54E-06	8.85E-12
37	122.01	1.80	1.81E+13	1.11E+11	3.82E+07	4.58E-06	8.85E-12
38	125.40	1.95	1.42E+13	1.11E+11	3.39E+07	3.62E-06	8.85E-12
39	128.79	1.90	1.10E+13	1.10E+11	2.98E+07	2.82E-06	8.85E-12
40	132.18	1.95	7.80E+12	1.10E+11	2.51E+07	2.00E-06	8.85E-12
41	135.57	2.00	2.18E+11	3.16E+09	4.20E+05	1.55E-06	8.85E-12

MAXIMUM CONDUCTIVITY = 1.28E-03 (MHOS/M)

POINT 34	NOZZLE RADIUS	ROCKET POSITION : REDEYE 5000(FT)/10(FT/S)	FREQUENCY
6.60 (M)	1.48E-02 (M)	PRESSURE : 0.852 (ATMOSPHERES)	2.50E+09 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	7.36E+15	2.38E+11	7.70E+08	8.72E-04	8.85E-12
2	3.39	.05	6.31E+15	2.37E+11	7.13E+08	7.50E-04	8.85E-12
3	5.78	.10	4.10E+15	2.36E+11	5.75E+08	4.90E-04	8.85E-12
4	10.17	.15	2.01E+15	2.34E+11	4.03E+08	2.43E-04	8.85E-12
5	13.56	.20	7.81E+14	2.31E+11	2.51E+08	9.55E-05	8.85E-12
6	16.95	.25	2.70E+14	2.26E+11	1.46E+08	3.36E-05	8.85E-12
7	20.34	.30	8.02E+13	2.22E+11	8.04E+07	1.02E-05	8.85E-12
8	23.73	.35	2.70E+13	2.16E+11	4.66E+07	3.52E-06	8.85E-12
9	27.11	.40	9.52E+12	2.10E+11	2.77E+07	1.28E-06	8.85E-12
10	30.50	.45	5.93E+12	2.03E+11	2.19E+07	8.23E-07	8.85E-12
11	33.89	.50	1.63E+13	1.96E+11	3.63E+07	2.35E-06	8.85E-12
12	37.28	.55	4.12E+13	1.93E+11	5.78E+07	6.14E-06	8.85E-12
13	40.67	.60	6.26E+13	1.82E+11	7.10E+07	9.67E-06	8.85E-12
14	44.06	.65	8.00E+13	1.76E+11	8.03E+07	1.28E-05	8.85E-12
15	47.45	.70	9.32E+13	1.70E+11	8.67E+07	1.55E-05	8.85E-12
16	50.84	.75	1.03E+14	1.64E+11	9.09E+07	1.76E-05	8.85E-12
17	54.23	.80	1.08E+14	1.58E+11	9.35E+07	1.93E-05	8.85E-12
18	57.62	.85	1.11E+14	1.53E+11	9.47E+07	2.05E-05	8.85E-12
19	61.01	.90	1.12E+14	1.48E+11	9.50E+07	2.12E-05	8.85E-12
20	64.40	.95	1.10E+14	1.44E+11	9.42E+07	2.15E-05	8.85E-12
21	67.79	1.00	1.07E+14	1.40E+11	9.26E+07	2.14E-05	8.85E-12
22	71.18	1.05	1.02E+14	1.37E+11	9.09E+07	2.11E-05	8.85E-12
23	74.56	1.10	9.70E+13	1.34E+11	8.84E+07	2.05E-05	8.85E-12
24	77.95	1.15	9.10E+13	1.31E+11	8.57E+07	1.96E-05	8.85E-12
25	81.34	1.20	8.47E+13	1.28E+11	8.26E+07	1.86E-05	8.85E-12
26	84.73	1.25	7.82E+13	1.26E+11	7.94E+07	1.75E-05	8.85E-12
27	88.12	1.30	7.16E+13	1.24E+11	7.60E+07	1.63E-05	8.85E-12
28	91.51	1.35	6.52E+13	1.22E+11	7.25E+07	1.51E-05	8.85E-12
29	94.90	1.40	5.88E+13	1.20E+11	6.89E+07	1.38E-05	8.85E-12
30	98.29	1.45	5.28E+13	1.19E+11	6.53E+07	1.26E-05	8.85E-12
31	101.68	1.50	4.69E+13	1.17E+11	6.15E+07	1.13E-05	8.85E-12
32	105.07	1.55	4.15E+13	1.16E+11	5.79E+07	1.01E-05	8.85E-12
33	108.46	1.60	3.63E+13	1.15E+11	5.41E+07	8.89E-06	8.85E-12
34	111.85	1.65	3.15E+13	1.14E+11	5.04E+07	7.66E-06	8.85E-12
35	115.24	1.70	2.69E+13	1.13E+11	4.66E+07	6.71E-06	8.85E-12
36	118.63	1.75	2.29E+13	1.12E+11	4.30E+07	5.74E-06	8.85E-12
37	122.01	1.80	1.90E+13	1.12E+11	3.92E+07	4.80E-06	8.85E-12
38	125.40	1.85	1.56E+13	1.11E+11	3.54E+07	3.94E-06	8.85E-12
39	128.79	1.90	1.24E+13	1.11E+11	3.16E+07	3.15E-06	8.85E-12
40	132.18	1.95	9.37E+12	1.10E+11	2.75E+07	2.40E-06	8.85E-12
41	135.57	2.00	5.18E+12	7.49E+10	2.04E+07	1.95E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 8.72E-04 (MHOS/M)

POINTS (M)	NOZZLE RADIUS (M)	POCKET POSITION PRESSURE	REDEYE 5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	FREQUENCY 2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	4.73E+15	2.37E+11	6.18E+08	5.64E-04	8.85E-12
2	3.39	.05	4.08E+15	2.36E+11	5.73E+08	4.87E-04	8.85E-12
3	6.78	.10	2.69E+15	2.35E+11	4.66E+08	3.23E-04	8.85E-12
4	10.17	.15	1.37E+15	2.33E+11	3.32E+08	1.66E-04	8.85E-12
5	13.56	.20	5.68E+14	2.30E+11	2.14E+08	6.97E-05	8.85E-12
6	16.95	.25	2.09E+14	2.26E+11	1.29E+08	2.60E-05	8.85E-12
7	20.34	.30	6.70E+13	2.21E+11	7.35E+07	8.55E-06	8.85E-12
8	23.73	.35	2.35E+13	2.15E+11	4.35E+07	3.07E-06	8.85E-12
9	27.11	.40	8.74E+12	2.09E+11	2.65E+07	1.18E-06	8.85E-12
10	30.50	.45	5.20E+12	2.03E+11	2.05E+07	7.22E-07	8.85E-12
11	33.89	.50	1.36E+13	1.96E+11	3.32E+07	1.96E-06	8.85E-12
12	37.28	.55	3.62E+13	1.90E+11	5.40E+07	5.36E-06	8.85E-12
13	40.67	.60	5.58E+13	1.83E+11	6.71E+07	8.59E-06	8.85E-12
14	44.06	.65	7.19E+13	1.77E+11	7.61E+07	1.15E-05	8.85E-12
15	47.45	.70	8.44E+13	1.71E+11	8.25E+07	1.39E-05	8.85E-12
16	50.84	.75	9.34E+13	1.65E+11	8.68E+07	1.60E-05	8.85E-12
17	54.23	.80	9.94E+13	1.59E+11	8.95E+07	1.76E-05	8.85E-12
18	57.62	.85	1.03E+14	1.54E+11	9.10E+07	1.88E-05	8.85E-12
19	61.01	.90	1.04E+14	1.50E+11	9.15E+07	1.96E-05	8.85E-12
20	64.40	.95	1.03E+14	1.45E+11	9.10E+07	1.99E-05	8.85E-12
21	67.79	1.00	1.00E+14	1.41E+11	8.98E+07	1.99E-05	8.85E-12
22	71.18	1.05	9.63E+13	1.38E+11	8.81E+07	1.97E-05	8.85E-12
23	74.56	1.10	9.18E+13	1.35E+11	8.60E+07	1.92E-05	8.85E-12
24	77.95	1.15	8.65E+13	1.32E+11	8.35E+07	1.85E-05	8.85E-12
25	81.34	1.20	8.09E+13	1.29E+11	8.08E+07	1.77E-05	8.85E-12
26	84.73	1.25	7.50E+13	1.27E+11	7.78E+07	1.67E-05	8.85E-12
27	88.12	1.30	6.91E+13	1.24E+11	7.46E+07	1.57E-05	8.85E-12
28	91.51	1.35	6.32E+13	1.23E+11	7.14E+07	1.45E-05	8.85E-12
29	94.90	1.40	5.74E+13	1.21E+11	6.80E+07	1.34E-05	8.85E-12
30	98.29	1.45	5.19E+13	1.19E+11	6.46E+07	1.22E-05	8.85E-12
31	101.66	1.50	4.64E+13	1.18E+11	6.11E+07	1.11E-05	8.85E-12
32	105.07	1.55	4.12E+13	1.17E+11	5.76E+07	9.96E-06	8.85E-12
33	108.46	1.60	3.63E+13	1.15E+11	5.41E+07	8.86E-06	8.85E-12
34	111.85	1.65	3.19E+13	1.14E+11	5.06E+07	7.83E-06	8.85E-12
35	115.24	1.70	2.74E+13	1.14E+11	4.70E+07	6.80E-06	8.85E-12
36	118.63	1.75	2.38E+13	1.13E+11	4.36E+07	5.89E-06	8.85E-12
37	122.01	1.80	1.98E+13	1.12E+11	4.00E+07	4.99E-06	8.85E-12
38	125.40	1.85	1.66E+13	1.11E+11	3.66E+07	4.19E-06	8.85E-12
39	128.79	1.90	1.34E+13	1.11E+11	3.29E+07	3.42E-06	8.85E-12
40	132.19	1.95	1.07E+13	1.10E+11	2.93E+07	2.73E-06	8.85E-12
41	135.57	2.00	8.14E+12	1.10E+11	2.56E+07	2.09E-06	8.85E-12
42	138.96	2.05	2.38E+12	3.66E+10	1.38E+07	1.22E-06	8.85E-12
43	142.35	2.10	1.71E+12	3.66E+10	1.17E+07	1.31E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 5.64E-04 (MHOS/M)

POINT36	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
7.00 (M)	1.48E-02 (M)	POSITION PRESSURE	5000(FT)/10(FT/S) 0.832 (ATMOSPHERES)	2.50E+09 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	2.94E+15	2.35E+11	4.87E+08	3.52E-04	8.85E-12
2	3.39	.05	2.55E+15	2.35E+11	4.54E+08	3.06E-04	8.85E-12
3	6.78	.10	1.73E+15	2.34E+11	3.73E+08	2.08E-04	8.85E-12
4	10.17	.15	9.19E+14	2.32E+11	2.72E+08	1.12E-04	8.85E-12
5	13.56	.20	4.09E+14	2.29E+11	1.81E+08	5.04E-05	8.85E-12
6	16.95	.25	1.59E+14	2.25E+11	1.13E+08	1.99E-05	8.85E-12
7	20.34	.30	5.61E+13	2.20E+11	6.73E+07	7.18E-06	8.85E-12
8	23.73	.35	2.03E+13	2.15E+11	4.04E+07	2.66E-06	8.85E-12
9	27.11	.40	7.98E+12	2.09E+11	2.54E+07	1.06E-06	8.85E-12
10	30.50	.45	4.56E+12	2.03E+11	1.92E+07	5.33E-07	8.85E-12
11	33.89	.50	1.13E+13	1.96E+11	3.02E+07	1.62E-06	8.85E-12
12	37.28	.55	3.19E+13	1.90E+11	5.07E+07	4.73E-06	8.85E-12
13	40.67	.60	4.98E+13	1.84E+11	6.34E+07	7.65E-06	8.85E-12
14	44.06	.65	6.48E+13	1.77E+11	7.23E+07	1.03E-05	8.85E-12
15	47.45	.70	7.66E+13	1.71E+11	7.86E+07	1.26E-05	8.85E-12
16	50.84	.75	8.53E+13	1.66E+11	8.29E+07	1.45E-05	8.85E-12
17	54.23	.80	9.12E+13	1.60E+11	8.56E+07	1.60E-05	8.85E-12
18	57.62	.85	9.47E+13	1.55E+11	8.74E+07	1.72E-05	8.85E-12
19	61.01	.90	9.62E+13	1.51E+11	8.81E+07	1.80E-05	8.85E-12
20	64.40	.95	9.58E+13	1.46E+11	8.79E+07	1.85E-05	8.85E-12
21	67.79	1.00	9.37E+13	1.42E+11	8.69E+07	1.85E-05	8.85E-12
22	71.18	1.05	9.07E+13	1.39E+11	8.55E+07	1.84E-05	8.85E-12
23	74.56	1.10	8.69E+13	1.35E+11	8.37E+07	1.81E-05	8.85E-12
24	77.95	1.15	8.22E+13	1.33E+11	8.14E+07	1.75E-05	8.85E-12
25	81.34	1.20	7.73E+13	1.30E+11	7.89E+07	1.66E-05	8.85E-12
26	84.73	1.25	7.20E+13	1.27E+11	7.62E+07	1.59E-05	8.85E-12
27	88.12	1.30	6.66E+13	1.25E+11	7.33E+07	1.50E-05	8.85E-12
28	91.51	1.35	6.12E+13	1.23E+11	7.02E+07	1.40E-05	8.85E-12
29	94.90	1.40	5.58E+13	1.21E+11	6.71E+07	1.30E-05	8.85E-12
30	98.29	1.45	5.07E+13	1.20E+11	6.39E+07	1.19E-05	8.85E-12
31	101.68	1.50	4.57E+13	1.18E+11	6.07E+07	1.09E-05	8.85E-12
32	105.07	1.55	4.08E+13	1.17E+11	5.74E+07	9.81E-06	8.85E-12
33	108.46	1.60	3.63E+13	1.16E+11	5.41E+07	8.81E-06	8.85E-12
34	111.85	1.65	3.19E+13	1.15E+11	5.07E+07	7.82E-06	8.85E-12
35	115.24	1.70	2.79E+13	1.14E+11	4.74E+07	6.89E-06	8.85E-12
36	118.63	1.75	2.41E+13	1.13E+11	4.41E+07	6.00E-06	8.85E-12
37	122.01	1.80	2.05E+13	1.12E+11	4.07E+07	5.15E-06	8.85E-12
38	125.40	1.85	1.74E+13	1.12E+11	3.74E+07	4.38E-06	8.85E-12
39	128.79	1.90	1.43E+13	1.11E+11	3.39E+07	3.62E-06	8.85E-12
40	132.18	1.95	1.17E+13	1.11E+11	3.08E+07	2.99E-06	8.85E-12
41	135.57	2.00	9.21E+12	1.10E+11	2.72E+07	2.35E-06	8.85E-12
42	138.96	2.05	7.30E+12	1.08E+11	2.37E+07	1.82E-06	8.85E-12
43	142.35	2.10	5.84E+12	1.08E+11	2.01E+07	1.31E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 3.52E-04 (MHOS/M)

#POINT37#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
7.20	1.43E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	2.03E+15	2.34E+11	4.04E+08	2.44E-04	8.85E-12
2	3.39	.05	1.77E+15	2.34E+11	3.78E+08	2.14E-04	8.85E-12
3	6.78	.10	1.22E+15	2.32E+11	3.14E+08	1.48E-04	8.85E-12
4	10.17	.15	6.69E+14	2.30E+11	2.32E+08	8.18E-05	8.85E-12
5	13.56	.20	3.11E+14	2.24E+11	1.59E+08	3.85E-05	8.85E-12
6	16.95	.25	1.26E+14	2.24E+11	1.01E+08	1.59E-05	8.85E-12
7	20.34	.30	4.74E+13	2.19E+11	6.18E+07	6.09E-06	8.85E-12
8	23.73	.35	1.77E+13	2.14E+11	3.77E+07	2.32E-06	8.85E-12
9	27.11	.40	7.29E+12	2.09E+11	2.42E+07	9.85E-07	8.85E-12
10	30.50	.45	4.46E+12	2.09E+11	1.90E+07	6.20E-07	8.85E-12
11	33.89	.50	1.21E+13	1.96E+11	3.13E+07	1.74E-06	8.85E-12
12	37.28	.55	2.88E+13	1.90E+11	4.82E+07	4.27E-06	8.85E-12
13	40.67	.60	4.51E+13	1.84E+11	6.03E+07	6.91E-06	8.85E-12
14	44.06	.65	5.90E+13	1.78E+11	6.90E+07	9.35E-06	8.85E-12
15	47.45	.70	7.02E+13	1.72E+11	7.52E+07	1.15E-05	8.85E-12
16	50.84	.75	7.86E+13	1.66E+11	7.96E+07	1.33E-05	8.85E-12
17	54.23	.80	8.44E+13	1.61E+11	8.25E+07	1.48E-05	8.85E-12
18	57.62	.85	8.80E+13	1.56E+11	8.42E+07	1.59E-05	8.85E-12
19	61.01	.90	8.98E+13	1.51E+11	8.51E+07	1.67E-05	8.85E-12
20	64.40	.95	8.99E+13	1.47E+11	8.51E+07	1.72E-05	8.85E-12
21	67.79	1.00	8.82E+13	1.43E+11	8.43E+07	1.73E-05	8.85E-12
22	71.18	1.05	8.56E+13	1.40E+11	8.31E+07	1.73E-05	8.85E-12
23	74.56	1.10	8.24E+13	1.36E+11	8.15E+07	1.70E-05	8.85E-12
24	77.95	1.15	7.83E+13	1.33E+11	7.94E+07	1.65E-05	8.85E-12
25	81.34	1.20	7.39E+13	1.31E+11	7.72E+07	1.59E-05	8.85E-12
26	84.73	1.25	6.91E+13	1.28E+11	7.47E+07	1.52E-05	8.85E-12
27	88.12	1.30	6.42E+13	1.26E+11	7.20E+07	1.44E-05	8.85E-12
28	91.51	1.35	5.93E+13	1.24E+11	6.91E+07	1.35E-05	8.85E-12
29	94.90	1.40	5.44E+13	1.22E+11	6.62E+07	1.25E-05	8.85E-12
30	98.29	1.45	4.95E+13	1.20E+11	5.32E+07	1.16E-05	8.85E-12
31	101.68	1.50	4.49E+13	1.19E+11	6.01E+07	1.06E-05	8.85E-12
32	105.07	1.55	4.03E+13	1.18E+11	5.70E+07	9.64E-06	8.85E-12
33	108.46	1.60	3.60E+13	1.17E+11	5.39E+07	8.71E-06	8.85E-12
34	111.85	1.65	3.19E+13	1.15E+11	5.07E+07	7.78E-06	8.85E-12
35	115.24	1.70	2.81E+13	1.14E+11	4.76E+07	6.91E-06	8.85E-12
36	118.63	1.75	2.44E+13	1.14E+11	4.44E+07	5.06E-06	8.85E-12
37	122.01	1.80	2.11E+13	1.13E+11	4.12E+07	5.27E-06	8.85E-12
38	125.40	1.85	1.80E+13	1.12E+11	3.80E+07	4.51E-06	8.85E-12
39	128.79	1.90	1.50E+13	1.12E+11	3.48E+07	3.80E-06	8.85E-12
40	132.18	1.95	1.25E+13	1.11E+11	3.17E+07	3.16E-06	8.85E-12
41	135.57	2.00	9.99E+12	1.10E+11	2.84E+07	2.55E-06	8.85E-12
42	138.96	2.05	7.89E+12	1.10E+11	2.52E+07	2.02E-06	8.85E-12
43	142.35	2.10	5.84E+12	1.10E+11	2.17E+07	1.50E-06	8.85E-12
44	145.74	2.15	3.03E+12	7.02E+10	1.56E+07	1.21E-06	8.85E-12
45	149.13	2.20	2.04E+12	7.00E+10	1.28E+07	8.19E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 2.44E-04 (MHOS/M)

#PCINT38#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
7.40	1.40E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.812 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	1.33E+15*	2.33E+11	3.20E+08#	1.61E-04*	8.85E-12#
2	3.39	.05	1.17E+15*	2.32E+11#	3.08E+08#	1.42E-04*	8.85E-12#
3	6.78	.10	8.30E+14*	2.31E+11#	2.53E+08#	1.01E-04*	8.85E-12#
4	10.17	.15	4.73E+14*	2.29E+11#	1.95E+08#	5.81E-05*	8.85E-12#
5	13.56	.20	2.32E+14*	2.26E+11#	1.37E+08#	2.99E-05*	8.85E-12#
6	16.35	.25	9.90E+13*	2.23E+11#	8.93E+07#	1.25E-05*	8.85E-12#
7	20.34	.30	3.97E+13*	2.19E+11#	5.66E+07#	5.12E-06*	8.85E-12#
8	23.73	.35	1.53E+13*	2.14E+11#	3.52E+07#	2.02E-06*	8.85E-12#
9	27.11	.40	6.71E+12*	2.09E+11#	2.33E+07#	9.07E-07*	8.85E-12#
10	30.50	.45	4.60E+12*	2.05E+11#	1.93E+07#	6.40E-07*	8.85E-12#
11	33.89	.50	1.39E+13*	1.97E+11#	3.33E+07#	1.98E-06*	8.85E-12#
12	37.28	.55	2.77E+13*	1.90E+11#	4.72E+07#	4.09E-06*	8.85E-12#
13	40.67	.60	4.19E+13*	1.84E+11#	5.81E+07#	6.40E-06*	8.85E-12#
14	44.06	.65	5.43E+13*	1.78E+11#	6.62E+07#	8.58E-06*	8.85E-12#
15	47.45	.70	6.46E+13*	1.73E+11#	7.22E+07#	1.05E-05*	8.85E-12#
16	50.84	.75	7.25E+13*	1.67E+11#	7.64E+07#	1.22E-05*	8.85E-12#
17	54.23	.80	7.82E+13*	1.62E+11#	7.94E+07#	1.36E-05*	8.85E-12#
18	57.62	.85	8.19E+13*	1.57E+11#	8.12E+07#	1.47E-05*	8.85E-12#
19	61.01	.90	8.38E+13*	1.52E+11#	8.22E+07#	1.55E-05*	8.85E-12#
20	64.40	.95	8.42E+13*	1.48E+11#	8.24E+07#	1.60E-05*	8.85E-12#
21	67.79	1.00	8.30E+13*	1.44E+11#	8.18E+07#	1.62E-05*	8.85E-12#
22	71.18	1.05	8.09E+13*	1.41E+11#	8.08E+07#	1.62E-05*	8.85E-12#
23	74.56	1.10	7.82E+13*	1.37E+11#	7.94E+07#	1.61E-05*	8.85E-12#
24	77.95	1.15	7.45E+13*	1.34E+11#	7.75E+07#	1.56E-05*	8.85E-12#
25	81.34	1.20	7.06E+13*	1.31E+11#	7.54E+07#	1.51E-05*	8.85E-12#
26	84.73	1.25	6.64E+13*	1.29E+11#	7.31E+07#	1.45E-05*	8.85E-12#
27	88.12	1.30	6.19E+13*	1.27E+11#	7.06E+07#	1.38E-05*	8.85E-12#
28	91.51	1.35	5.74E+13*	1.25E+11#	6.80E+07#	1.30E-05*	8.85E-12#
29	94.90	1.40	5.26E+13*	1.23E+11#	6.53E+07#	1.21E-05*	8.85E-12#
30	98.29	1.45	4.63E+13*	1.21E+11#	6.24E+07#	1.12E-05*	8.85E-12#
31	101.68	1.50	4.40E+13*	1.20E+11#	5.96E+07#	1.04E-05*	8.85E-12#
32	105.07	1.55	3.97E+13*	1.18E+11#	5.66E+07#	9.47E-06*	8.85E-12#
33	108.46	1.60	3.57E+13*	1.17E+11#	5.37E+07#	8.60E-06*	8.85E-12#
34	111.85	1.65	3.18E+13*	1.16E+11#	5.06E+07#	7.73E-06*	8.85E-12#
35	115.24	1.70	2.82E+13*	1.15E+11#	4.77E+07#	6.92E-06*	8.85E-12#
36	118.63	1.75	2.47E+13*	1.14E+11#	4.46E+07#	6.10E-06*	8.85E-12#
37	122.01	1.80	2.16E+13*	1.13E+11#	4.17E+07#	5.36E-06*	8.85E-12#
38	125.40	1.85	1.85E+13*	1.13E+11#	3.86E+07#	4.63E-06*	8.85E-12#
39	128.79	1.90	1.57E+13*	1.12E+11#	3.56E+07#	3.96E-06*	8.85E-12#
40	132.18	1.95	1.31E+13*	1.11E+11#	3.25E+07#	3.32E-06*	8.85E-12#
41	135.57	2.00	1.04E+13*	1.11E+11#	2.94E+07#	2.74E-06*	8.85E-12#
42	138.96	2.05	8.63E+12*	1.10E+11#	2.64E+07#	2.21E-06*	8.85E-12#
43	142.35	2.10	6.60E+12*	1.10E+11#	2.31E+07#	1.69E-06*	8.85E-12#
44	145.74	2.15	4.97E+12*	1.10E+11#	2.00E+07#	1.29E-06*	8.85E-12#
45	149.13	2.20	3.40E+12*	1.09E+11#	1.55E+07#	8.76E-07*	8.85E-12#
46	152.52	2.25	7.79E+11*	3.23E+10#	7.92E+06#	6.79E-07*	8.85E-12#
47	155.91	2.30	3.97E+11*	3.22E+10#	5.66E+06#	3.47E-07*	8.85E-12#

MAXIMUM CONDUCTIVITY : 1.61E-04 (MHOS/M)

POINT 35	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
7.60	1.48E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.032 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	8.82E+14	2.32E+11	2.67E+08	1.07E-04	8.85E-12
2	3.39	.05	7.83E+14	2.31E+11	2.51E+08	9.54E-05	8.85E-12
3	6.78	.10	5.67E+14	2.30E+11	2.14E+08	6.94E-05	8.85E-12
4	10.17	.15	3.36E+14	2.28E+11	1.65E+08	4.15E-05	8.85E-12
5	13.56	.20	1.73E+14	2.25E+11	1.18E+08	2.17E-05	8.85E-12
6	16.95	.25	7.76E+13	2.22E+11	7.91E+07	9.85E-06	8.85E-12
7	20.34	.30	3.31E+13	2.18E+11	5.17E+07	4.28E-06	8.85E-12
8	23.73	.35	1.33E+13	2.13E+11	3.27E+07	1.76E-06	8.85E-12
9	27.11	.40	6.25E+12	2.08E+11	2.24E+07	8.47E-07	8.85E-12
10	30.50	.45	5.01E+12	2.02E+11	2.01E+07	6.97E-07	8.85E-12
11	33.89	.50	1.63E+13	1.97E+11	3.62E+07	2.34E-06	8.85E-12
12	37.28	.55	2.87E+13	1.91E+11	4.81E+07	4.24E-06	8.85E-12
13	40.67	.60	4.04E+13	1.85E+11	5.70E+07	6.16E-06	8.85E-12
14	44.06	.65	5.09E+13	1.79E+11	6.41E+07	8.02E-06	8.85E-12
15	47.45	.70	6.00E+13	1.73E+11	6.95E+07	9.76E-06	8.85E-12
16	50.84	.75	6.72E+13	1.68E+11	7.36E+07	1.13E-05	8.85E-12
17	54.23	.80	7.26E+13	1.63E+11	7.65E+07	1.26E-05	8.85E-12
18	57.62	.85	7.63E+13	1.58E+11	7.84E+07	1.36E-05	8.85E-12
19	61.01	.90	7.83E+13	1.53E+11	7.95E+07	1.44E-05	8.85E-12
20	64.40	.95	7.90E+13	1.49E+11	7.98E+07	1.50E-05	8.85E-12
21	67.79	1.00	7.82E+13	1.45E+11	7.94E+07	1.52E-05	8.85E-12
22	71.18	1.05	7.65E+13	1.41E+11	7.85E+07	1.52E-05	8.85E-12
23	74.56	1.10	7.42E+13	1.38E+11	7.73E+07	1.51E-05	8.85E-12
24	77.95	1.15	7.10E+13	1.35E+11	7.57E+07	1.48E-05	8.85E-12
25	81.34	1.20	6.75E+13	1.32E+11	7.36E+07	1.44E-05	8.85E-12
26	84.73	1.25	6.37E+13	1.30E+11	7.17E+07	1.38E-05	8.85E-12
27	88.12	1.30	5.96E+13	1.27E+11	6.93E+07	1.32E-05	8.85E-12
28	91.51	1.35	5.55E+13	1.25E+11	6.69E+07	1.25E-05	8.85E-12
29	94.90	1.40	5.13E+13	1.23E+11	6.43E+07	1.17E-05	8.85E-12
30	98.29	1.45	4.72E+13	1.22E+11	6.17E+07	1.09E-05	8.85E-12
31	101.68	1.50	4.31E+13	1.20E+11	5.89E+07	1.01E-05	8.85E-12
32	105.07	1.55	3.91E+13	1.19E+11	5.62E+07	9.25E-06	8.85E-12
33	108.46	1.60	3.53E+13	1.18E+11	5.34E+07	8.47E-06	8.85E-12
34	111.85	1.65	3.17E+13	1.16E+11	5.05E+07	7.67E-06	8.85E-12
35	115.24	1.70	2.82E+13	1.15E+11	4.77E+07	6.90E-06	8.85E-12
36	118.63	1.75	2.50E+13	1.14E+11	4.48E+07	6.14E-06	8.85E-12
37	122.01	1.80	2.19E+13	1.14E+11	4.20E+07	5.43E-06	8.85E-12
38	125.40	1.85	1.90E+13	1.13E+11	3.91E+07	4.73E-06	8.85E-12
39	128.79	1.90	1.64E+13	1.12E+11	3.63E+07	4.11E-06	8.85E-12
40	132.18	1.95	1.38E+13	1.12E+11	3.33E+07	3.47E-06	8.85E-12
41	135.57	2.00	1.15E+13	1.11E+11	3.05E+07	2.92E-06	8.85E-12
42	138.96	2.05	9.31E+12	1.11E+11	2.74E+07	2.37E-06	8.85E-12
43	142.35	2.10	7.34E+12	1.10E+11	2.43E+07	1.88E-06	8.85E-12
44	145.74	2.15	5.53E+12	1.10E+11	2.11E+07	1.42E-06	8.85E-12
45	149.13	2.20	3.88E+12	1.09E+11	1.77E+07	1.00E-06	8.85E-12
46	152.52	2.25	2.49E+12	1.08E+11	1.42E+07	6.80E-07	8.85E-12
47	155.91	2.30	1.27E+12	1.08E+11	1.01E+07	3.48E-07	8.85E-12

MAXIMUM CONDUCTIVITY = 1.07E-04 (MHOS/M)

POINT OF INTEREST (M)	NOZZLE RADIUS (M)	ROCKET POSITION PRESSURE	REDEYE 5000(FT)/10(FT/S) 0.432 (ATMOSPHERES)	FREQUENCY 2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	6.28E+14	2.30E+11	2.25E+08	7.68E-05	8.85E-12
2	3.39	.05	5.61E+14	2.30E+11	2.13E+08	6.87E-05	8.85E-12
3	6.78	.10	4.14E+14	2.29E+11	1.83E+08	5.09E-05	8.85E-12
4	10.17	.15	2.52E+14	2.27E+11	1.43E+08	3.13E-05	8.85E-12
5	13.56	.20	1.65E+14	2.24E+11	1.04E+08	1.69E-05	8.85E-12
6	16.95	.25	6.26E+13	2.21E+11	7.10E+07	7.98E-06	8.85E-12
7	20.34	.30	2.90E+13	2.17E+11	4.75E+07	3.63E-06	8.85E-12
8	23.73	.35	1.16E+13	2.13E+11	3.06E+07	1.54E-06	8.85E-12
9	27.11	.40	5.70E+12	2.07E+11	2.14E+07	7.74E-07	8.85E-12
10	30.50	.45	4.75E+12	2.02E+11	1.96E+07	6.62E-07	8.85E-12
11	33.89	.50	1.57E+13	1.96E+11	3.55E+07	2.25E-06	8.85E-12
12	37.28	.55	2.76E+13	1.91E+11	4.72E+07	4.08E-06	8.85E-12
13	40.67	.60	3.85E+13	1.85E+11	5.57E+07	5.67E-06	8.85E-12
14	44.06	.65	4.83E+13	1.79E+11	6.24E+07	7.59E-06	8.85E-12
15	47.45	.70	5.65E+13	1.74E+11	6.75E+07	9.17E-06	8.85E-12
16	50.84	.75	6.32E+13	1.68E+11	7.14E+07	1.06E-05	8.85E-12
17	54.23	.80	6.82E+13	1.63E+11	7.42E+07	1.16E-05	8.85E-12
18	57.62	.85	7.17E+13	1.58E+11	7.60E+07	1.27E-05	8.85E-12
19	61.01	.90	7.38E+13	1.54E+11	7.71E+07	1.35E-05	8.85E-12
20	64.40	.95	7.46E+13	1.50E+11	7.75E+07	1.40E-05	8.85E-12
21	67.79	1.00	7.40E+13	1.46E+11	7.72E+07	1.43E-05	8.85E-12
22	71.18	1.05	7.26E+13	1.42E+11	7.65E+07	1.44E-05	8.85E-12
23	74.56	1.10	7.06E+13	1.39E+11	7.54E+07	1.43E-05	8.85E-12
24	77.95	1.15	6.79E+13	1.36E+11	7.40E+07	1.41E-05	8.85E-12
25	81.34	1.20	6.47E+13	1.33E+11	7.22E+07	1.37E-05	8.85E-12
26	84.73	1.25	6.13E+13	1.30E+11	7.03E+07	1.32E-05	8.85E-12
27	88.12	1.30	5.75E+13	1.29E+11	6.81E+07	1.26E-05	8.85E-12
28	91.51	1.35	5.37E+13	1.26E+11	6.58E+07	1.20E-05	8.85E-12
29	94.90	1.40	4.98E+13	1.24E+11	6.34E+07	1.13E-05	8.85E-12
30	98.29	1.45	4.60E+13	1.22E+11	6.09E+07	1.06E-05	8.85E-12
31	101.68	1.50	4.22E+13	1.21E+11	5.83E+07	9.84E-06	8.85E-12
32	105.07	1.55	3.85E+13	1.19E+11	5.57E+07	9.08E-06	8.85E-12
33	108.46	1.60	3.49E+13	1.18E+11	5.30E+07	8.32E-06	8.85E-12
34	111.85	1.65	3.15E+13	1.17E+11	5.04E+07	7.59E-06	8.85E-12
35	115.24	1.70	2.81E+13	1.15E+11	4.76E+07	6.84E-06	8.85E-12
36	118.63	1.75	2.51E+13	1.15E+11	4.49E+07	6.14E-06	8.85E-12
37	122.01	1.80	2.21E+13	1.14E+11	4.22E+07	5.46E-06	8.85E-12
38	125.40	1.85	1.93E+13	1.13E+11	3.95E+07	4.81E-06	8.85E-12
39	128.79	1.90	1.68E+13	1.13E+11	3.69E+07	4.20E-06	8.85E-12
40	132.18	1.95	1.43E+13	1.12E+11	3.40E+07	3.61E-06	8.85E-12
41	135.57	2.00	1.22E+13	1.11E+11	3.13E+07	3.08E-06	8.85E-12
42	138.96	2.05	1.03E+13	1.11E+11	2.44E+07	2.55E-06	8.85E-12
43	142.35	2.10	8.17E+12	1.10E+11	2.57E+07	2.08E-06	8.85E-12
44	145.74	2.15	6.36E+12	1.10E+11	2.26E+07	1.63E-06	8.85E-12
45	149.13	2.20	4.76E+12	1.10E+11	1.96E+07	1.22E-06	8.85E-12
46	152.52	2.25	3.33E+12	1.09E+11	1.64E+07	8.58E-07	8.85E-12
47	155.91	2.30	5.55E+11	4.33E+10	6.57E+06	3.48E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 7.68E-05 (MHOS/M)

POINT 41	NOZZLE RADIUS	ROCKET POSITION	REDEYE 5000(FT)/10(FT/S) PRESSURE 0.832 (ATMOSPHERES)	FREQUENCY
8.00 (M)	1.49E-02 (M)			2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	4.34E+14	2.29E+11	1.87E+08	5.33E-05	8.85E-12
2	3.39	.05	3.91E+14	2.29E+11	1.77E+08	4.81E-05	8.85E-12
3	6.78	.10	2.94E+14	2.29E+11	1.54E+08	3.64E-05	8.85E-12
4	10.17	.15	1.96E+14	2.26E+11	1.22E+08	2.32E-05	8.85E-12
5	13.56	.20	1.03E+14	2.23E+11	9.12E+07	1.30E-05	8.85E-12
6	16.95	.25	5.00E+13	2.20E+11	6.35E+07	5.35E-06	8.85E-12
7	20.34	.30	2.34E+13	2.16E+11	4.35E+07	3.05E-06	8.85E-12
8	23.73	.35	1.01E+13	2.12E+11	2.86E+07	1.35E-06	8.85E-12
9	27.11	.40	5.16E+12	2.07E+11	2.04E+07	7.02E-07	8.85E-12
10	30.50	.45	4.41E+12	2.02E+11	1.89E+07	6.16E-07	8.85E-12
11	33.89	.50	1.46E+13	1.96E+11	3.44E+07	2.10E-06	8.85E-12
12	37.28	.55	2.62E+13	1.91E+11	4.60E+07	3.87E-06	8.85E-12
13	40.67	.60	3.66E+13	1.85E+11	5.43E+07	5.57E-06	8.85E-12
14	44.06	.65	4.57E+13	1.80E+11	6.07E+07	7.16E-06	8.85E-12
15	47.45	.70	5.33E+13	1.74E+11	6.56E+07	8.63E-06	8.85E-12
16	50.84	.75	5.95E+13	1.69E+11	6.92E+07	9.92E-06	8.85E-12
17	54.23	.80	6.42E+13	1.64E+11	7.19E+07	1.10E-05	8.85E-12
18	57.62	.85	6.75E+13	1.59E+11	7.38E+07	1.20E-05	8.85E-12
19	61.01	.90	6.95E+13	1.55E+11	7.49E+07	1.27E-05	8.85E-12
20	64.40	.95	7.05E+13	1.50E+11	7.54E+07	1.32E-05	8.85E-12
21	67.79	1.00	7.01E+13	1.47E+11	7.52E+07	1.35E-05	8.85E-12
22	71.18	1.05	6.89E+13	1.43E+11	7.46E+07	1.36E-05	8.85E-12
23	74.56	1.10	6.72E+13	1.40E+11	7.36E+07	1.36E-05	8.85E-12
24	77.95	1.15	6.49E+13	1.37E+11	7.23E+07	1.34E-05	8.85E-12
25	81.34	1.20	6.20E+13	1.34E+11	7.07E+07	1.31E-05	8.85E-12
26	84.73	1.25	5.89E+13	1.31E+11	6.89E+07	1.26E-05	8.85E-12
27	88.12	1.30	5.55E+13	1.29E+11	6.69E+07	1.21E-05	8.85E-12
28	91.51	1.35	5.20E+13	1.27E+11	6.47E+07	1.16E-05	8.85E-12
29	94.90	1.40	4.84E+13	1.25E+11	6.25E+07	1.09E-05	8.85E-12
30	98.29	1.45	4.49E+13	1.23E+11	6.01E+07	1.03E-05	8.85E-12
31	101.68	1.50	4.13E+13	1.21E+11	5.77E+07	9.56E-06	8.85E-12
32	105.07	1.55	3.78E+13	1.20E+11	5.52E+07	8.88E-06	8.85E-12
33	108.46	1.60	3.44E+13	1.19E+11	5.26E+07	8.17E-06	8.85E-12
34	111.85	1.65	3.12E+13	1.17E+11	5.01E+07	7.48E-06	8.85E-12
35	115.24	1.70	2.80E+13	1.16E+11	4.75E+07	6.78E-06	8.85E-12
36	118.63	1.75	2.51E+13	1.15E+11	4.50E+07	6.13E-06	8.85E-12
37	122.01	1.80	2.22E+13	1.14E+11	4.23E+07	5.47E-06	8.85E-12
38	125.40	1.85	1.95E+13	1.14E+11	3.95E+07	4.87E-06	8.85E-12
39	128.79	1.90	1.71E+13	1.13E+11	3.72E+07	4.28E-06	8.85E-12
40	132.18	1.95	1.48E+13	1.12E+11	3.46E+07	3.72E-06	8.85E-12
41	135.57	2.00	1.27E+13	1.12E+11	3.20E+07	3.20E-06	8.85E-12
42	138.96	2.05	1.07E+13	1.11E+11	2.93E+07	2.71E-06	8.85E-12
43	142.35	2.10	8.84E+12	1.11E+11	2.64E+07	2.26E-06	8.85E-12
44	145.74	2.15	7.12E+12	1.10E+11	2.40E+07	1.82E-06	8.85E-12
45	149.13	2.20	5.59E+12	1.10E+11	2.12E+07	1.43E-06	8.85E-12
46	152.52	2.25	4.09E+12	1.09E+11	1.82E+07	1.05E-06	8.85E-12
47	155.91	2.30	9.57E+11	2.78E+10	6.78E+06	9.67E-07	8.85E-12
48	159.30	2.35	6.51E+11	2.77E+10	7.25E+06	6.60E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 5.33E-05 (MHOS/M)

POINT#	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
8.20	1.48E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.932 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	3.06E+14	2.28E+11	1.57E+08	3.78E-05	8.85E-12
2	3.39	.05	2.77E+14	2.27E+11	1.50E+08	3.43E-05	8.85E-12
3	6.78	.10	2.13E+14	2.27E+11	1.31E+08	2.65E-05	8.85E-12
4	10.17	.15	1.39E+14	2.25E+11	1.05E+08	1.74E-05	8.85E-12
5	13.56	.20	7.46E+13	2.22E+11	8.01E+07	1.01E-05	8.85E-12
6	16.95	.25	4.01E+13	2.19E+11	5.68E+07	5.15E-06	8.85E-12
7	20.34	.30	1.96E+13	2.15E+11	3.98E+07	2.57E-06	8.85E-12
8	23.73	.35	8.40E+12	2.11E+11	2.68E+07	1.19E-06	8.85E-12
9	27.11	.40	4.64E+12	2.07E+11	1.93E+07	6.33E-07	8.85E-12
10	30.50	.45	4.04E+12	2.01E+11	1.80E+07	5.65E-07	8.85E-12
11	33.89	.50	1.34E+13	1.96E+11	3.29E+07	1.92E-06	8.85E-12
12	37.28	.55	2.46E+13	1.91E+11	4.45E+07	3.63E-06	8.85E-12
13	40.67	.60	3.45E+13	1.85E+11	5.27E+07	5.25E-06	8.85E-12
14	44.06	.65	4.31E+13	1.80E+11	5.90E+07	6.75E-06	8.85E-12
15	47.45	.70	5.03E+13	1.75E+11	6.37E+07	8.12E-06	8.85E-12
16	50.84	.75	5.62E+13	1.69E+11	6.73E+07	9.34E-06	8.85E-12
17	54.23	.80	6.06E+13	1.64E+11	6.99E+07	1.04E-05	8.85E-12
18	57.62	.85	6.38E+13	1.60E+11	7.17E+07	1.12E-05	8.85E-12
19	61.01	.90	6.58E+13	1.55E+11	7.28E+07	1.19E-05	8.85E-12
20	64.40	.95	6.68E+13	1.51E+11	7.34E+07	1.24E-05	8.85E-12
21	67.79	1.00	6.66E+13	1.47E+11	7.32E+07	1.27E-05	8.85E-12
22	71.18	1.05	6.56E+13	1.44E+11	7.27E+07	1.29E-05	8.85E-12
23	74.56	1.10	6.41E+13	1.40E+11	7.19E+07	1.29E-05	8.85E-12
24	77.95	1.15	6.21E+13	1.37E+11	7.07E+07	1.27E-05	8.85E-12
25	81.34	1.20	5.95E+13	1.35E+11	6.92E+07	1.25E-05	8.85E-12
26	84.73	1.25	5.66E+13	1.32E+11	6.76E+07	1.21E-05	8.85E-12
27	88.12	1.30	5.36E+13	1.30E+11	6.57E+07	1.17E-05	8.85E-12
28	91.51	1.35	5.05E+13	1.27E+11	6.37E+07	1.11E-05	8.85E-12
29	94.90	1.40	4.70E+13	1.25E+11	6.16E+07	1.06E-05	8.85E-12
30	98.29	1.45	4.37E+13	1.24E+11	5.93E+07	9.96E-06	8.85E-12
31	101.68	1.50	4.03E+13	1.22E+11	5.70E+07	9.32E-06	8.85E-12
32	105.07	1.55	3.71E+13	1.20E+11	5.47E+07	8.67E-06	8.85E-12
33	108.46	1.60	3.39E+13	1.19E+11	5.23E+07	8.02E-06	8.85E-12
34	111.85	1.65	3.08E+13	1.18E+11	4.99E+07	7.37E-06	8.85E-12
35	115.24	1.70	2.75E+13	1.17E+11	4.74E+07	6.72E-06	8.85E-12
36	118.63	1.75	2.51E+13	1.16E+11	4.49E+07	6.10E-06	8.85E-12
37	122.01	1.80	2.23E+13	1.15E+11	4.24E+07	5.47E-06	8.85E-12
38	125.40	1.85	1.99E+13	1.14E+11	4.00E+07	4.90E-06	8.85E-12
39	128.79	1.90	1.74E+13	1.13E+11	3.74E+07	4.32E-06	8.85E-12
40	132.18	1.95	1.52E+13	1.13E+11	3.50E+07	3.81E-06	8.85E-12
41	135.57	2.00	1.31E+13	1.12E+11	3.25E+07	3.29E-06	8.85E-12
42	138.96	2.05	1.12E+13	1.11E+11	3.01E+07	2.83E-06	8.85E-12
43	142.35	2.10	9.42E+12	1.11E+11	2.76E+07	2.39E-06	8.85E-12
44	145.74	2.15	7.76E+12	1.11E+11	2.50E+07	1.98E-06	8.85E-12
45	149.13	2.20	6.29E+12	1.10E+11	2.25E+07	1.61E-06	8.85E-12
46	152.52	2.25	4.98E+12	1.10E+11	1.98E+07	1.25E-06	8.85E-12
47	155.91	2.30	3.93E+12	9.89E+10	1.66E+07	9.70E-07	8.85E-12
48	159.30	2.35	2.92E+12	9.85E+10	1.37E+07	6.62E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 3.78E-05 (MHOS/M)

#POINT#3#	NOZZLE EXITS	#ROCKET	REDEYE	FREQUENCY
# 8.40 #	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
# (M) #	(M)	#PRESSURE	0.012 (ATMOSPHERES)	(HZ)

# RADIAL# INDEX #	RELATIVE* RADIUS *	ABSOLUTE# RADIUS # (M)	ELECTRON* DENSITY * (1/M3)	COLLISION# FREQUENCY# (1/S)	PLASMA # FREQUENCY# (1/S)	SIGMA * (MHO/M)	EPSILON # (FD/M)
# 1	0.00	0.00	2.28E+14	2.27E+11	1.35E+08	2.80E-05	8.85E-12
# 2	3.39	.05	2.06E+14	2.25E+11	1.29E+08	2.56E-05	8.85E-12
# 3	6.78	.10	1.60E+14	2.25E+11	1.14E+08	2.00E-05	8.85E-12
# 4	10.17	.15	1.07E+14	2.24E+11	9.28E+07	1.35E-05	8.85E-12
# 5	13.56	.20	6.31E+13	2.21E+11	7.13E+07	9.03E-06	8.85E-12
# 6	16.95	.25	3.30E+13	2.19E+11	5.15E+07	4.25E-06	8.85E-12
# 7	20.34	.30	1.66E+13	2.15E+11	3.66E+07	2.18E-06	8.85E-12
# 8	23.73	.35	7.97E+12	2.11E+11	2.52E+07	1.05E-06	8.85E-12
# 9	27.11	.40	4.16E+12	2.06E+11	1.83E+07	5.71E-07	8.85E-12
# 10	30.50	.45	3.66E+12	2.01E+11	1.72E+07	5.15E-07	8.85E-12
# 11	33.89	.50	1.22E+13	1.96E+11	3.13E+07	1.75E-06	8.85E-12
# 12	37.28	.55	2.30E+13	1.91E+11	4.30E+07	3.39E-06	8.85E-12
# 13	40.67	.60	3.25E+13	1.85E+11	5.12E+07	4.93E-06	8.85E-12
# 14	44.06	.65	4.07E+13	1.80E+11	5.73E+07	6.36E-06	8.85E-12
# 15	47.45	.70	4.76E+13	1.75E+11	6.19E+07	7.66E-06	8.85E-12
# 16	50.84	.75	5.31E+13	1.70E+11	6.54E+07	8.81E-06	8.85E-12
# 17	54.23	.80	5.74E+13	1.65E+11	6.80E+07	9.80E-06	8.85E-12
# 18	57.62	.85	6.05E+13	1.60E+11	6.98E+07	1.06E-05	8.85E-12
# 19	61.01	.90	6.25E+13	1.56E+11	7.10E+07	1.13E-05	8.85E-12
# 20	64.40	.95	6.35E+13	1.52E+11	7.15E+07	1.18E-05	8.85E-12
# 21	67.79	1.00	6.34E+13	1.49E+11	7.15E+07	1.21E-05	8.85E-12
# 22	71.18	1.05	6.27E+13	1.44E+11	7.11E+07	1.22E-05	8.85E-12
# 23	74.56	1.10	6.13E+13	1.41E+11	7.03E+07	1.22E-05	8.85E-12
# 24	77.95	1.15	5.95E+13	1.39E+11	6.93E+07	1.22E-05	8.85E-12
# 25	81.34	1.20	5.72E+13	1.35E+11	6.79E+07	1.19E-05	8.85E-12
# 26	84.73	1.25	5.46E+13	1.33E+11	6.63E+07	1.16E-05	8.85E-12
# 27	88.12	1.30	5.19E+13	1.30E+11	6.46E+07	1.12E-05	8.85E-12
# 28	91.51	1.35	4.89E+13	1.29E+11	6.27E+07	1.07E-05	8.85E-12
# 29	94.90	1.40	4.57E+13	1.26E+11	6.07E+07	1.02E-05	8.85E-12
# 30	98.29	1.45	4.26E+13	1.24E+11	5.86E+07	9.66E-06	8.85E-12
# 31	101.68	1.50	3.95E+13	1.23E+11	5.64E+07	9.07E-06	8.85E-12
# 32	105.07	1.55	3.64E+13	1.21E+11	5.42E+07	8.47E-06	8.85E-12
# 33	108.46	1.60	3.34E+13	1.20E+11	5.19E+07	7.86E-06	8.85E-12
# 34	111.85	1.65	3.05E+13	1.18E+11	4.96E+07	7.25E-06	8.85E-12
# 35	115.24	1.70	2.76E+13	1.17E+11	4.72E+07	6.64E-06	8.85E-12
# 36	118.63	1.75	2.50E+13	1.16E+11	4.49E+07	6.05E-06	8.85E-12
# 37	122.01	1.80	2.24E+13	1.15E+11	4.25E+07	5.47E-06	8.85E-12
# 38	125.40	1.85	2.00E+13	1.14E+11	4.01E+07	4.92E-06	8.85E-12
# 39	128.79	1.90	1.77E+13	1.14E+11	3.77E+07	4.37E-06	8.85E-12
# 40	132.18	1.95	1.55E+13	1.13E+11	3.54E+07	3.87E-06	8.85E-12
# 41	135.57	2.00	1.34E+13	1.12E+11	3.29E+07	3.37E-06	8.85E-12
# 42	138.96	2.05	1.16E+13	1.12E+11	3.06E+07	2.93E-06	8.85E-12
# 43	142.35	2.10	9.81E+12	1.11E+11	2.81E+07	2.49E-06	8.85E-12
# 44	145.74	2.15	8.24E+12	1.11E+11	2.58E+07	2.10E-06	8.85E-12
# 45	149.13	2.20	6.75E+12	1.10E+11	2.33E+07	1.72E-06	8.85E-12
# 46	152.52	2.25	5.39E+12	1.10E+11	2.09E+07	1.38E-06	8.85E-12
# 47	155.91	2.30	4.14E+12	1.10E+11	1.84E+07	1.05E-06	8.85E-12
# 48	159.30	2.35	3.04E+12	1.09E+11	1.57E+07	7.83E-07	8.85E-12
# 49	162.69	2.40	1.34E+12	6.03E+10	1.05E+07	6.44E-07	8.85E-12

MAXIMUM CONDUCTIVITY = 2.80E-05 (MHOS/M)

POINT 44	NOZZLE RADIUS	POCKET POSITION	REDEYE 5000*(FT)/10(FT/S)	FREQUENCY
3.60 (M)	1.49E-02 (M)	POSITION : PRESSURE :	0.832 (ATMOSPHERES)	2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	1.63E+14*	2.26E+11*	1.15E+06*	2.04E-05*	8.85E-12*
2	3.39	.05	1.50E+14*	2.25E+11*	1.10E+06*	1.87E-05*	8.85E-12*
3	6.78	.10	1.19E+14*	2.24E+11*	9.79E+07*	1.49E-05*	8.85E-12*
4	10.17	.15	8.12E+13*	2.23E+11*	8.00E+07*	1.03E-05*	8.85E-12*
5	13.56	.20	4.94E+13*	2.20E+11*	6.31E+07*	6.32E-06*	8.85E-12*
6	16.95	.25	2.69E+13*	2.17E+11*	4.66E+07*	3.49E-06*	8.85E-12*
7	20.34	.30	1.40E+13*	2.14E+11*	3.36E+07*	1.84E-06*	8.85E-12*
8	23.73	.35	6.92E+12*	2.10E+11*	2.36E+07*	9.23E-07*	8.85E-12*
9	27.11	.40	3.74E+12*	2.06E+11*	1.74E+07*	5.13E-07*	8.85E-12*
10	30.50	.45	3.33E+12*	2.01E+11*	1.64E+07*	4.68E-07*	8.85E-12*
11	33.89	.50	1.10E+13*	1.96E+11*	2.97E+07*	1.58E-06*	8.85E-12*
12	37.28	.55	2.14E+13*	1.91E+11*	4.15E+07*	3.16E-06*	8.85E-12*
13	40.67	.60	3.05E+13*	1.86E+11*	4.96E+07*	4.63E-06*	8.85E-12*
14	44.06	.65	3.83E+13*	1.80E+11*	5.56E+07*	5.99E-06*	8.85E-12*
15	47.45	.70	4.49E+13*	1.75E+11*	6.02E+07*	7.23E-06*	8.85E-12*
16	50.84	.75	5.03E+13*	1.70E+11*	6.37E+07*	8.32E-06*	8.85E-12*
17	54.23	.80	5.44E+13*	1.66E+11*	6.62E+07*	9.26E-06*	8.85E-12*
18	57.62	.85	5.74E+13*	1.61E+11*	6.80E+07*	1.00E-05*	8.85E-12*
19	61.01	.90	5.94E+13*	1.57E+11*	6.92E+07*	1.07E-05*	8.85E-12*
20	64.40	.95	6.04E+13*	1.52E+11*	6.98E+07*	1.12E-05*	8.85E-12*
21	67.79	1.00	6.05E+13*	1.49E+11*	6.98E+07*	1.15E-05*	8.85E-12*
22	71.18	1.05	5.99E+13*	1.45E+11*	6.95E+07*	1.16E-05*	8.85E-12*
23	74.56	1.10	5.87E+13*	1.42E+11*	6.88E+07*	1.17E-05*	8.85E-12*
24	77.95	1.15	5.71E+13*	1.39E+11*	6.79E+07*	1.16E-05*	8.85E-12*
25	81.34	1.20	5.50E+13*	1.36E+11*	6.66E+07*	1.14E-05*	8.85E-12*
26	84.73	1.25	5.26E+13*	1.33E+11*	6.51E+07*	1.11E-05*	8.85E-12*
27	88.12	1.30	5.01E+13*	1.31E+11*	6.35E+07*	1.08E-05*	8.85E-12*
28	91.51	1.35	4.73E+13*	1.29E+11*	6.17E+07*	1.03E-05*	8.85E-12*
29	94.90	1.40	4.44E+13*	1.27E+11*	5.98E+07*	9.89E-06*	8.85E-12*
30	98.29	1.45	4.15E+13*	1.25E+11*	5.78E+07*	9.37E-06*	8.85E-12*
31	101.68	1.50	3.86E+13*	1.23E+11*	5.58E+07*	8.83E-06*	8.85E-12*
32	105.07	1.55	3.57E+13*	1.22E+11*	5.36E+07*	8.27E-06*	8.85E-12*
33	108.46	1.60	3.28E+13*	1.20E+11*	5.15E+07*	7.70E-06*	8.85E-12*
34	111.85	1.65	3.01E+13*	1.19E+11*	4.92E+07*	7.13E-06*	8.85E-12*
35	115.24	1.70	2.74E+13*	1.18E+11*	4.70E+07*	6.56E-06*	8.85E-12*
36	118.63	1.75	2.48E+13*	1.17E+11*	4.47E+07*	6.01E-06*	8.85E-12*
37	122.01	1.80	2.24E+13*	1.16E+11*	4.25E+07*	5.45E-06*	8.85E-12*
38	125.40	1.85	2.00E+13*	1.15E+11*	4.02E+07*	4.92E-06*	8.85E-12*
39	128.79	1.90	1.78E+13*	1.14E+11*	3.79E+07*	4.41E-06*	8.85E-12*
40	132.18	1.95	1.58E+13*	1.13E+11*	3.56E+07*	3.92E-06*	8.85E-12*
41	135.57	2.00	1.39E+13*	1.13E+11*	3.33E+07*	3.45E-06*	8.85E-12*
42	138.96	2.05	1.20E+13*	1.12E+11*	3.11E+07*	3.01E-06*	8.85E-12*
43	142.35	2.10	1.02E+13*	1.11E+11*	2.87E+07*	2.58E-06*	8.85E-12*
44	145.74	2.15	8.68E+12*	1.11E+11*	2.65E+07*	2.20E-06*	8.85E-12*
45	149.13	2.20	7.15E+12*	1.11E+11*	2.41E+07*	1.83E-06*	8.85E-12*
46	152.52	2.25	5.97E+12*	1.10E+11*	2.18E+07*	1.50E-06*	8.85E-12*
47	155.91	2.30	4.64E+12*	1.10E+11*	1.93E+07*	1.19E-06*	8.85E-12*
48	159.30	2.35	3.54E+12*	1.09E+11*	1.68E+07*	9.10E-07*	8.85E-12*
49	162.69	2.40	2.57E+12*	1.09E+11*	1.44E+07*	6.63E-07*	8.85E-12*
50	166.08	2.45	3.90E+11*	2.31E+10*	5.50E+06*	4.93E-07*	8.85E-12*
51	169.46	2.50	2.19E+11*	2.21E+10*	4.20E+06*	2.78E-07*	8.85E-12*

MAXIMUM CONDUCTIVITY : 2.04E-05 (MHOS/M) 117

#POINT45#	NOZZLE RADIUS	#ROCKET	REDEYE	#	FREQUENCY	#
# 6.80 #	1.48E-02	#POSITION	5000(FT)/10(FT/S)	#	2.50E+08	#
# (M) #	(M)	#PRESSURE	0.832 (ATMOSPHERES)	#	(HZ)	#

# RADIAL INDEX #	RELATIVE RADIUS *	ABSOLUTE RADIUS (M) #	ELECTRON DENSITY (1/M3) *	COLLISION FREQUENCY (1/S) #	PLASMA FREQUENCY (1/S) #	SIGMA (MHO/M) *	EPSILON (FO/M) #
# 1 #	0.00 *	0.00 #	1.21E+14*	2.24E+11#	9.99E+07#	1.52E-05*	8.85E-12#
# 2 #	3.39 *	.05 #	1.12E+14*	2.24E+11#	9.49E+07#	1.41E-05*	8.85E-12#
# 3 #	6.79 *	.10 #	8.98E+13*	2.23E+11#	8.51E+07#	1.13E-05*	8.85E-12#
# 4 #	10.17 *	.15 #	6.29E+13*	2.21E+11#	7.12E+07#	7.99E-06*	8.85E-12#
# 5 #	13.56 *	.20 #	3.33E+13*	2.19E+11#	5.62E+07#	5.04E-06*	8.85E-12#
# 6 #	16.95 *	.25 #	2.21E+13*	2.16E+11#	4.22E+07#	2.88E-06*	8.85E-12#
# 7 #	20.34 *	.30 #	1.16E+13*	2.13E+11#	3.09E+07#	1.56E-06*	8.85E-12#
# 8 #	23.73 *	.35 #	6.08E+12*	2.09E+11#	2.21E+07#	8.19E-07*	8.85E-12#
# 9 #	27.11 *	.40 #	3.35E+12*	2.05E+11#	1.64E+07#	4.60E-07*	8.85E-12#
# 10 #	30.50 *	.45 #	3.01E+12*	2.00E+11#	1.56E+07#	4.24E-07*	8.85E-12#
# 11 #	33.89 *	.50 #	9.84E+12*	1.96E+11#	2.92E+07#	1.42E-06*	8.85E-12#
# 12 #	37.28 *	.55 #	1.98E+13*	1.91E+11#	4.00E+07#	2.33E-06*	8.85E-12#
# 13 #	40.67 *	.60 #	2.86E+13*	1.86E+11#	4.80E+07#	4.34E-06*	8.85E-12#
# 14 #	44.06 *	.65 #	3.61E+13*	1.81E+11#	5.40E+07#	5.64E-06*	8.85E-12#
# 15 #	47.45 *	.70 #	4.25E+13*	1.76E+11#	5.85E+07#	6.82E-06*	8.85E-12#
# 16 #	50.84 *	.75 #	4.76E+13*	1.71E+11#	6.20E+07#	7.86E-06*	8.85E-12#
# 17 #	54.23 *	.80 #	5.16E+13*	1.66E+11#	6.45E+07#	8.76E-06*	8.85E-12#
# 18 #	57.62 *	.85 #	5.46E+13*	1.61E+11#	6.63E+07#	9.52E-06*	8.85E-12#
# 19 #	61.01 *	.90 #	5.65E+13*	1.57E+11#	6.75E+07#	1.01E-05*	8.85E-12#
# 20 #	64.40 *	.95 #	5.76E+13*	1.53E+11#	6.82E+07#	1.06E-05*	8.85E-12#
# 21 #	67.79 *	1.00 #	5.78E+13*	1.49E+11#	6.82E+07#	1.09E-05*	8.85E-12#
# 22 #	71.18 *	1.05 #	5.73E+13*	1.46E+11#	6.80E+07#	1.11E-05*	8.85E-12#
# 23 #	74.56 *	1.10 #	5.63E+13*	1.42E+11#	6.74E+07#	1.11E-05*	8.85E-12#
# 24 #	77.95 *	1.15 #	5.48E+13*	1.39E+11#	6.65E+07#	1.11E-05*	8.85E-12#
# 25 #	81.34 *	1.20 #	5.30E+13*	1.37E+11#	6.53E+07#	1.09E-05*	8.85E-12#
# 26 #	84.73 *	1.25 #	5.08E+13*	1.34E+11#	6.40E+07#	1.07E-05*	8.85E-12#
# 27 #	88.12 *	1.30 #	4.84E+13*	1.31E+11#	6.25E+07#	1.04E-05*	8.85E-12#
# 28 #	91.51 *	1.35 #	4.59E+13*	1.29E+11#	6.04E+07#	9.99E-06*	8.85E-12#
# 29 #	94.90 *	1.40 #	4.32E+13*	1.27E+11#	5.90E+07#	9.57E-06*	8.85E-12#
# 30 #	98.29 *	1.45 #	4.05E+13*	1.25E+11#	5.71E+07#	9.10E-06*	8.85E-12#
# 31 #	101.68 *	1.50 #	3.77E+13*	1.24E+11#	5.51E+07#	8.60E-06*	8.85E-12#
# 32 #	105.07 *	1.55 #	3.50E+13*	1.22E+11#	5.31E+07#	8.08E-06*	8.85E-12#
# 33 #	108.46 *	1.60 #	3.23E+13*	1.21E+11#	5.10E+07#	7.55E-06*	8.85E-12#
# 34 #	111.85 *	1.65 #	2.97E+13*	1.19E+11#	4.89E+07#	7.01E-06*	8.85E-12#
# 35 #	115.24 *	1.70 #	2.71E+13*	1.16E+11#	4.68E+07#	6.47E-06*	8.85E-12#
# 36 #	118.63 *	1.75 #	2.47E+13*	1.17E+11#	4.46E+07#	5.94E-06*	8.85E-12#
# 37 #	122.01 *	1.80 #	2.24E+13*	1.16E+11#	4.24E+07#	5.42E-06*	8.85E-12#
# 38 #	125.40 *	1.85 #	2.01E+13*	1.15E+11#	4.02E+07#	4.91E-06*	8.85E-12#
# 39 #	128.79 *	1.90 #	1.80E+13*	1.14E+11#	3.81E+07#	4.43E-06*	8.85E-12#
# 40 #	132.18 *	1.95 #	1.60E+13*	1.14E+11#	3.59E+07#	3.96E-06*	8.85E-12#
# 41 #	135.57 *	2.00 #	1.41E+13*	1.13E+11#	3.37E+07#	3.51E-06*	8.85E-12#
# 42 #	138.96 *	2.05 #	1.23E+13*	1.12E+11#	3.15E+07#	3.09E-06*	8.85E-12#
# 43 #	142.35 *	2.10 #	1.06E+13*	1.12E+11#	2.93E+07#	2.66E-06*	8.85E-12#
# 44 #	145.74 *	2.15 #	9.11E+12*	1.11E+11#	2.71E+07#	2.31E-06*	8.85E-12#
# 45 #	149.13 *	2.20 #	7.63E+12*	1.11E+11#	2.48E+07#	1.94E-06*	8.85E-12#
# 46 #	152.52 *	2.25 #	6.32E+12*	1.10E+11#	2.26E+07#	1.61E-06*	8.85E-12#
# 47 #	155.91 *	2.30 #	5.07E+12*	1.10E+11#	2.01E+07#	1.29E-06*	8.85E-12#
# 48 #	159.30 *	2.35 #	3.93E+12*	1.10E+11#	1.77E+07#	1.00E-06*	8.85E-12#
# 49 #	162.69 *	2.40 #	2.81E+12*	1.09E+11#	1.50E+07#	7.24E-07*	8.85E-12#
# 50 #	166.08 *	2.45 #	1.64E+12*	9.31E+10#	1.15E+07#	4.36E-07*	8.85E-12#
# 51 #	169.46 *	2.50 #	9.22E+11*	9.29E+10#	9.62E+06#	2.75E-07*	8.85E-12#

MAXIMUM CONDUCTIVITY : 1.52E-05 (MHOS/M) 118

POINT 46	NOZZLE RADIUS	ROCKET POSITION / PRESSURE	REDEYE	FREQUENCY
9.00 (M)	1.49E-02 (M)	5000(FT)/10(FT/S) 0.932 (ATMOSPHERES)		2.50E+08 (HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	9.23E+13	2.23E+11	8.62E+07	1.16E-05	8.85E-12
2	3.39	.05	8.54E+13	2.23E+11	8.30E+07	1.08E-05	8.85E-12
3	5.76	.10	6.34E+13	2.22E+11	7.48E+07	8.81E-06	8.85E-12
4	10.17	.15	4.35E+13	2.20E+11	6.32E+07	6.32E-06	8.85E-12
5	13.56	.20	3.16E+13	2.18E+11	5.05E+07	4.06E-06	8.85E-12
6	16.95	.25	1.84E+13	2.16E+11	3.95E+07	2.40E-06	8.85E-12
7	20.34	.30	1.00E+13	2.12E+11	2.95E+07	1.33E-06	8.85E-12
8	23.73	.35	5.35E+12	2.09E+11	2.08E+07	7.23E-07	8.85E-12
9	27.11	.40	3.00E+12	2.04E+11	1.55E+07	4.13E-07	8.85E-12
10	30.50	.45	2.72E+12	2.00E+11	1.48E+07	3.83E-07	8.85E-12
11	33.89	.50	8.42E+12	1.93E+11	2.67E+07	1.27E-06	8.85E-12
12	37.28	.55	1.84E+13	1.90E+11	3.85E+07	2.72E-06	8.85E-12
13	40.67	.60	2.69E+13	1.86E+11	4.65E+07	4.07E-06	8.85E-12
14	44.06	.65	3.41E+13	1.81E+11	5.24E+07	5.32E-06	8.85E-12
15	47.45	.70	4.02E+13	1.76E+11	5.69E+07	6.44E-06	8.85E-12
16	50.84	.75	4.52E+13	1.71E+11	6.03E+07	7.44E-06	8.85E-12
17	54.23	.80	4.91E+13	1.66E+11	6.29E+07	8.31E-06	8.85E-12
18	57.62	.85	5.19E+13	1.62E+11	6.47E+07	9.04E-06	8.85E-12
19	61.01	.90	5.39E+13	1.58E+11	6.59E+07	9.63E-06	8.85E-12
20	64.40	.95	5.50E+13	1.54E+11	6.66E+07	1.01E-05	8.85E-12
21	67.79	1.00	5.53E+13	1.50E+11	6.68E+07	1.04E-05	8.85E-12
22	71.18	1.05	5.49E+13	1.46E+11	6.66E+07	1.06E-05	8.85E-12
23	74.56	1.10	5.41E+13	1.43E+11	6.60E+07	1.07E-05	8.85E-12
24	77.95	1.15	5.28E+13	1.40E+11	6.53E+07	1.06E-05	8.85E-12
25	81.34	1.20	5.11E+13	1.37E+11	6.42E+07	1.05E-05	8.85E-12
26	84.73	1.25	4.91E+13	1.35E+11	6.29E+07	1.03E-05	8.85E-12
27	88.12	1.30	4.69E+13	1.32E+11	6.15E+07	1.00E-05	8.85E-12
28	91.51	1.35	4.45E+13	1.30E+11	5.99E+07	9.66E-06	8.85E-12
29	94.90	1.40	4.20E+13	1.28E+11	5.82E+07	9.27E-06	8.85E-12
30	98.29	1.45	3.95E+13	1.26E+11	5.64E+07	8.84E-06	8.85E-12
31	101.68	1.50	3.69E+13	1.24E+11	5.45E+07	8.37E-06	8.85E-12
32	105.07	1.55	3.43E+13	1.23E+11	5.26E+07	7.89E-06	8.85E-12
33	108.46	1.60	3.19E+13	1.21E+11	5.06E+07	7.39E-06	8.85E-12
34	111.85	1.65	2.93E+13	1.20E+11	4.86E+07	6.98E-06	8.85E-12
35	115.24	1.70	2.69E+13	1.19E+11	4.65E+07	6.36E-06	8.85E-12
36	118.63	1.75	2.45E+13	1.17E+11	4.44E+07	5.87E-06	8.85E-12
37	122.01	1.80	2.23E+13	1.16E+11	4.24E+07	5.39E-06	8.85E-12
38	125.40	1.85	2.01E+13	1.15E+11	4.02E+07	4.90E-06	8.85E-12
39	128.79	1.90	1.81E+13	1.15E+11	3.82E+07	4.44E-06	8.85E-12
40	132.18	1.95	1.61E+13	1.14E+11	3.60E+07	3.98E-06	8.85E-12
41	135.57	2.00	1.43E+13	1.13E+11	3.40E+07	3.56E-06	8.85E-12
42	138.96	2.05	1.26E+13	1.13E+11	3.18E+07	3.14E-06	8.85E-12
43	142.35	2.10	1.10E+13	1.12E+11	2.97E+07	2.76E-06	8.85E-12
44	145.74	2.15	9.47E+12	1.12E+11	2.76E+07	2.39E-06	8.85E-12
45	149.13	2.20	8.05E+12	1.11E+11	2.55E+07	2.04E-06	8.85E-12
46	152.52	2.25	6.76E+12	1.11E+11	2.34E+07	1.72E-06	8.85E-12
47	155.91	2.30	5.62E+12	1.10E+11	2.11E+07	1.41E-06	8.85E-12
48	159.30	2.35	4.62E+12	1.10E+11	1.93E+07	1.13E-06	8.85E-12
49	162.69	2.40	3.74E+12	1.10E+11	1.64E+07	8.59E-07	8.85E-12
50	166.08	2.45	2.98E+12	1.09E+11	1.40E+07	6.23E-07	8.85E-12
51	169.47	2.50	1.54E+12	1.04E+11	1.11E+07	3.99E-07	8.85E-12

MAXIMUM CONDUCTIVITY = 1.16E-05 (MHOS/M) 119

#POINT47#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
# 9.20 #	1.48E-02	#POSITION :	5000(FT)/10(FT/S) #	2.50E+08 #
# (M) #	(M)	#PRESSURE :	0.832 (ATMOSPHERES)#	(HZ) #

# RADIAL INDEX #	RELATIVE RADIUS * (M)	ABSOLUTE RADIUS # (M)	ELECTRON DENSITY # (1/M3)	COLLISION FREQUENCY # (1/S)	PLASMA FREQUENCY # (1/S)	SIGMA * (MHO/M)	EPSILON # (FD/M)
# 1 #	0.00 *	0.00 #	6.69E+13*	2.22E+11#	7.34E+07#	8.48E-06*	8.85E-12#
# 2 #	3.39 *	.05 #	6.22E+13*	2.22E+11#	7.08E+07#	7.91E-06*	8.85E-12#
# 3 #	6.78 *	.10 #	5.14E+13*	2.21E+11#	6.44E+07#	6.56E-06*	8.85E-12#
# 4 #	10.17 *	.15 #	3.75E+13*	2.19E+11#	5.50E+07#	4.82E-06*	8.85E-12#
# 5 #	13.56 *	.20 #	2.47E+13*	2.17E+11#	4.46E+07#	3.21E-06*	8.85E-12#
# 6 #	16.95 *	.25 #	1.49E+13*	2.15E+11#	3.47E+07#	1.96E-06*	8.85E-12#
# 7 #	20.34 *	.30 #	8.40E+12*	2.11E+11#	2.60E+07#	1.12E-06*	8.85E-12#
# 8 #	23.73 *	.35 #	4.66E+12*	2.08E+11#	1.94E+07#	6.32E-07*	8.85E-12#
# 9 #	27.11 *	.40 #	2.66E+12*	2.04E+11#	1.47E+07#	3.68E-07*	8.85E-12#
# 10 #	30.50 *	.45 #	2.43E+12*	2.03E+11#	1.40E+07#	3.44E-07*	8.85E-12#
# 11 #	33.89 *	.50 #	7.82E+12*	1.95E+11#	2.51E+07#	1.13E-06*	8.85E-12#
# 12 #	37.28 *	.55 #	1.70E+13*	1.90E+11#	3.70E+07#	2.51E-06*	8.85E-12#
# 13 #	40.67 *	.60 #	2.51E+13*	1.86E+11#	4.50E+07#	3.81E-06*	8.85E-12#
# 14 #	44.06 *	.65 #	3.21E+13*	1.81E+11#	5.08E+07#	5.00E-06*	8.85E-12#
# 15 #	47.45 *	.70 #	3.80E+13*	1.76E+11#	5.53E+07#	6.08E-06*	8.85E-12#
# 16 #	50.84 *	.75 #	4.29E+13*	1.71E+11#	5.87E+07#	7.03E-06*	8.85E-12#
# 17 #	54.23 *	.80 #	4.66E+13*	1.67E+11#	6.13E+07#	7.86E-06*	8.85E-12#
# 18 #	57.62 *	.85 #	4.94E+13*	1.62E+11#	6.31E+07#	8.57E-06*	8.85E-12#
# 19 #	61.01 *	.90 #	5.14E+13*	1.59E+11#	6.43E+07#	9.15E-06*	8.85E-12#
# 20 #	64.40 *	.95 #	5.25E+13*	1.54E+11#	6.51E+07#	9.60E-06*	8.85E-12#
# 21 #	67.79 *	1.00 #	5.29E+13*	1.51E+11#	6.53E+07#	9.90E-06*	8.85E-12#
# 22 #	71.18 *	1.05 #	5.27E+13*	1.47E+11#	6.51E+07#	1.01E-05*	8.85E-12#
# 23 #	74.56 *	1.10 #	5.19E+13*	1.44E+11#	6.47E+07#	1.02E-05*	8.85E-12#
# 24 #	77.95 *	1.15 #	5.08E+13*	1.41E+11#	6.40E+07#	1.02E-05*	8.85E-12#
# 25 #	81.34 *	1.20 #	4.93E+13*	1.38E+11#	6.30E+07#	1.01E-05*	8.85E-12#
# 26 #	84.73 *	1.25 #	4.74E+13*	1.35E+11#	6.18E+07#	9.89E-06*	8.85E-12#
# 27 #	88.12 *	1.30 #	4.54E+13*	1.33E+11#	6.05E+07#	9.65E-06*	8.85E-12#
# 28 #	91.51 *	1.35 #	4.32E+13*	1.30E+11#	5.90E+07#	9.33E-06*	8.85E-12#
# 29 #	94.90 *	1.40 #	4.09E+13*	1.28E+11#	5.74E+07#	8.97E-06*	8.85E-12#
# 30 #	98.29 *	1.45 #	3.85E+13*	1.26E+11#	5.57E+07#	8.58E-06*	8.85E-12#
# 31 #	101.68 *	1.50 #	3.61E+13*	1.25E+11#	5.39E+07#	8.15E-06*	8.85E-12#
# 32 #	105.07 *	1.55 #	3.36E+13*	1.23E+11#	5.21E+07#	7.70E-06*	8.85E-12#
# 33 #	108.46 *	1.60 #	3.12E+13*	1.22E+11#	5.02E+07#	7.24E-06*	8.85E-12#
# 34 #	111.85 *	1.65 #	2.89E+13*	1.20E+11#	4.82E+07#	6.76E-06*	8.85E-12#
# 35 #	115.24 *	1.70 #	2.66E+13*	1.19E+11#	4.63E+07#	6.29E-06*	8.85E-12#
# 36 #	118.63 *	1.75 #	2.43E+13*	1.18E+11#	4.43E+07#	5.81E-06*	8.85E-12#
# 37 #	122.01 *	1.80 #	2.22E+13*	1.17E+11#	4.23E+07#	5.35E-06*	8.85E-12#
# 38 #	125.40 *	1.85 #	2.01E+13*	1.16E+11#	4.02E+07#	4.90E-06*	8.85E-12#
# 39 #	128.79 *	1.90 #	1.81E+13*	1.15E+11#	3.82E+07#	4.44E-06*	8.85E-12#
# 40 #	132.18 *	1.95 #	1.62E+13*	1.14E+11#	3.62E+07#	4.00E-06*	8.85E-12#
# 41 #	135.57 *	2.00 #	1.45E+13*	1.14E+11#	3.42E+07#	3.60E-06*	8.85E-12#
# 42 #	138.96 *	2.05 #	1.28E+13*	1.13E+11#	3.21E+07#	3.19E-06*	8.85E-12#
# 43 #	142.35 *	2.10 #	1.13E+13*	1.12E+11#	3.02E+07#	2.83E-06*	8.85E-12#
# 44 #	145.74 *	2.15 #	9.80E+12*	1.12E+11#	2.81E+07#	2.47E-06*	8.85E-12#
# 45 #	149.13 *	2.20 #	8.47E+12*	1.11E+11#	2.61E+07#	2.14E-06*	8.85E-12#
# 46 #	152.52 *	2.25 #	7.21E+12*	1.11E+11#	2.41E+07#	1.83E-06*	8.85E-12#
# 47 #	155.91 *	2.30 #	6.04E+12*	1.10E+11#	2.21E+07#	1.54E-06*	8.85E-12#
# 48 #	159.30 *	2.35 #	4.99E+12*	1.10E+11#	2.00E+07#	1.28E-06*	8.85E-12#
# 49 #	162.69 *	2.40 #	3.95E+12*	1.10E+11#	1.78E+07#	1.01E-06*	8.85E-12#
# 50 #	166.08 *	2.45 #	3.05E+12*	1.09E+11#	1.57E+07#	7.86E-07*	8.85E-12#
# 51 #	169.46 *	2.50 #	2.14E+12*	1.08E+11#	1.31E+07#	5.52E-07*	8.85E-12#

MAXIMUM CONDUCTIVITY : 1.02E-05 (MHOS/M)

#POINT48#	NOZZLE RADIUS	#POCKET	REDEYE	FREQUENCY
9.40	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FD/M)
1	0.00	0.00	4.14E+13	2.21E+11	5.78E+07	5.29E-06	8.85E-12
2	3.39	.05	3.91E+13	2.21E+11	5.61E+07	4.99E-06	8.85E-12
3	6.78	.10	3.34E+13	2.20E+11	5.19E+07	4.28E-06	8.85E-12
4	10.17	.15	2.56E+13	2.19E+11	4.55E+07	3.31E-06	8.85E-12
5	13.56	.20	1.78E+13	2.16E+11	3.79E+07	2.32E-06	8.85E-12
6	16.95	.25	1.14E+13	2.14E+11	3.04E+07	1.51E-06	8.85E-12
7	20.34	.30	6.76E+12	2.11E+11	2.33E+07	9.04E-07	8.85E-12
8	23.73	.35	3.96E+12	2.07E+11	1.79E+07	5.39E-07	8.85E-12
9	27.11	.40	2.33E+12	2.03E+11	1.37E+07	3.23E-07	8.85E-12
10	30.50	.45	2.15E+12	1.99E+11	1.32E+07	3.04E-07	8.85E-12
11	33.89	.50	6.82E+12	1.95E+11	2.34E+07	9.86E-07	8.85E-12
12	37.28	.55	1.56E+13	1.90E+11	3.54E+07	2.31E-06	8.85E-12
13	40.67	.60	2.34E+13	1.86E+11	4.34E+07	3.55E-06	8.85E-12
14	44.06	.65	3.01E+13	1.81E+11	4.92E+07	4.68E-06	8.85E-12
15	47.45	.70	3.57E+13	1.76E+11	5.37E+07	5.71E-06	8.85E-12
16	50.84	.75	4.04E+13	1.72E+11	5.70E+07	6.63E-06	8.85E-12
17	54.23	.80	4.41E+13	1.67E+11	5.96E+07	7.42E-06	8.85E-12
18	57.62	.85	4.69E+13	1.63E+11	6.15E+07	8.10E-06	8.85E-12
19	61.01	.90	4.88E+13	1.59E+11	6.27E+07	8.66E-06	8.85E-12
20	64.40	.95	5.00E+13	1.55E+11	6.35E+07	9.10E-06	8.85E-12
21	67.79	1.00	5.05E+13	1.51E+11	6.38E+07	9.41E-06	8.85E-12
22	71.18	1.05	5.04E+13	1.48E+11	6.37E+07	9.61E-06	8.85E-12
23	74.56	1.10	4.98E+13	1.44E+11	6.33E+07	9.71E-06	8.85E-12
24	77.95	1.15	4.88E+13	1.41E+11	6.27E+07	9.74E-06	8.85E-12
25	81.34	1.20	4.74E+13	1.38E+11	6.18E+07	9.66E-06	8.85E-12
26	84.73	1.25	4.58E+13	1.36E+11	6.07E+07	9.50E-06	8.85E-12
27	88.12	1.30	4.39E+13	1.33E+11	5.95E+07	9.29E-06	8.85E-12
28	91.51	1.35	4.19E+13	1.31E+11	5.81E+07	9.01E-06	8.85E-12
29	94.90	1.40	3.97E+13	1.29E+11	5.66E+07	8.68E-06	8.85E-12
30	98.29	1.45	3.75E+13	1.27E+11	5.50E+07	8.33E-06	8.85E-12
31	101.68	1.50	3.53E+13	1.25E+11	5.33E+07	7.93E-06	8.85E-12
32	105.07	1.55	3.30E+13	1.24E+11	5.16E+07	7.52E-06	8.85E-12
33	108.46	1.60	3.07E+13	1.22E+11	4.97E+07	7.08E-06	8.85E-12
34	111.85	1.65	2.85E+13	1.21E+11	4.79E+07	6.64E-06	8.85E-12
35	115.24	1.70	2.63E+13	1.19E+11	4.60E+07	6.20E-06	8.85E-12
36	118.63	1.75	2.41E+13	1.18E+11	4.41E+07	5.75E-06	8.85E-12
37	122.01	1.80	2.21E+13	1.17E+11	4.22E+07	5.31E-06	8.85E-12
38	125.40	1.85	2.01E+13	1.16E+11	4.02E+07	4.86E-06	8.85E-12
39	128.79	1.90	1.82E+13	1.15E+11	3.83E+07	4.45E-06	8.85E-12
40	132.18	1.95	1.63E+13	1.15E+11	3.63E+07	4.02E-06	8.85E-12
41	135.57	2.00	1.47E+13	1.14E+11	3.44E+07	3.64E-06	8.85E-12
42	138.96	2.05	1.30E+13	1.13E+11	3.24E+07	3.24E-06	8.85E-12
43	142.35	2.10	1.15E+13	1.13E+11	3.06E+07	2.90E-06	8.85E-12
44	145.74	2.15	1.01E+13	1.12E+11	2.86E+07	2.55E-06	8.85E-12
45	149.13	2.20	8.89E+12	1.12E+11	2.68E+07	2.24E-06	8.85E-12
46	152.52	2.25	7.65E+12	1.11E+11	2.48E+07	1.94E-06	8.85E-12
47	155.91	2.30	6.56E+12	1.11E+11	2.30E+07	1.67E-06	8.85E-12
48	159.30	2.35	5.55E+12	1.10E+11	2.11E+07	1.42E-06	8.85E-12
49	162.69	2.40	4.57E+12	1.10E+11	1.92E+07	1.17E-06	8.85E-12
50	166.08	2.45	3.69E+12	1.10E+11	1.73E+07	9.48E-07	8.85E-12
51	169.46	2.50	2.73E+12	1.09E+11	1.48E+07	7.04E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 9.74E-06 (MHOS/M) 121

#POINT49#	NOZZLE RADIUS	#ROCKET	REDEYE	FREQUENCY
9.60	1.48E-02	#POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	#PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	1.60E+13	2.20E+11	3.60E+07	2.06E-06	8.85E-12
2	3.39	.05	1.59E+13	2.19E+11	3.58E+07	2.05E-06	8.85E-12
3	6.78	.10	1.54E+13	2.19E+11	3.52E+07	1.99E-06	8.85E-12
4	10.17	.15	1.37E+13	2.17E+11	3.32E+07	1.78E-06	8.85E-12
5	13.56	.20	1.09E+13	2.15E+11	2.97E+07	1.43E-06	8.85E-12
6	16.95	.25	7.96E+12	2.13E+11	2.53E+07	1.05E-06	8.85E-12
7	20.34	.30	5.11E+12	2.10E+11	2.03E+07	6.87E-07	8.85E-12
8	23.73	.35	3.27E+12	2.06E+11	1.62E+07	4.46E-07	8.85E-12
9	27.11	.40	1.99E+12	2.03E+11	1.27E+07	2.77E-07	8.85E-12
10	30.50	.45	1.86E+12	1.99E+11	1.23E+07	2.64E-07	8.85E-12
11	33.89	.50	5.82E+12	1.94E+11	2.17E+07	8.43E-07	8.85E-12
12	37.28	.55	1.42E+13	1.90E+11	3.38E+07	2.10E-06	8.85E-12
13	40.67	.60	2.17E+13	1.86E+11	4.16E+07	3.29E-06	8.85E-12
14	44.06	.65	2.80E+13	1.81E+11	4.76E+07	4.37E-06	8.85E-12
15	47.45	.70	3.35E+13	1.76E+11	5.20E+07	5.35E-06	8.85E-12
16	50.84	.75	3.80E+13	1.72E+11	5.53E+07	6.22E-06	8.85E-12
17	54.23	.80	4.16E+13	1.69E+11	5.79E+07	6.99E-06	8.85E-12
18	57.62	.85	4.43E+13	1.63E+11	5.98E+07	7.64E-06	8.85E-12
19	61.01	.90	4.63E+13	1.59E+11	6.11E+07	8.19E-06	8.85E-12
20	64.40	.95	4.75E+13	1.55E+11	6.19E+07	8.61E-06	8.85E-12
21	67.79	1.00	4.81E+13	1.52E+11	6.22E+07	8.82E-06	8.85E-12
22	71.18	1.05	4.81E+13	1.48E+11	6.22E+07	9.13E-06	8.85E-12
23	74.56	1.10	4.76E+13	1.45E+11	6.20E+07	9.25E-06	8.85E-12
24	77.95	1.15	4.68E+13	1.42E+11	6.14E+07	9.29E-06	8.85E-12
25	81.34	1.20	4.56E+13	1.39E+11	6.06E+07	9.24E-06	8.85E-12
26	84.73	1.25	4.41E+13	1.36E+11	5.96E+07	9.11E-06	8.85E-12
27	88.12	1.30	4.25E+13	1.34E+11	5.85E+07	8.93E-06	8.85E-12
28	91.51	1.35	4.06E+13	1.32E+11	5.72E+07	9.69E-06	8.85E-12
29	94.90	1.40	3.96E+13	1.30E+11	5.58E+07	8.40E-06	8.85E-12
30	98.29	1.45	3.66E+13	1.28E+11	5.43E+07	8.08E-06	8.85E-12
31	101.68	1.50	3.44E+13	1.26E+11	5.27E+07	7.71E-06	8.85E-12
32	105.07	1.55	3.23E+13	1.24E+11	5.10E+07	7.34E-06	8.85E-12
33	108.46	1.60	3.02E+13	1.23E+11	4.93E+07	6.93E-06	8.85E-12
34	111.85	1.65	2.81E+13	1.21E+11	4.76E+07	6.52E-06	8.85E-12
35	115.24	1.70	2.60E+13	1.20E+11	4.58E+07	6.10E-06	8.85E-12
36	118.63	1.75	2.40E+13	1.19E+11	4.39E+07	5.68E-06	8.85E-12
37	122.01	1.80	2.20E+13	1.18E+11	4.21E+07	5.27E-06	8.85E-12
38	125.40	1.85	2.01E+13	1.17E+11	4.02E+07	4.85E-06	8.85E-12
39	128.79	1.90	1.83E+13	1.16E+11	3.84E+07	4.45E-06	8.85E-12
40	132.18	1.95	1.65E+13	1.15E+11	3.64E+07	4.04E-06	8.85E-12
41	135.57	2.00	1.49E+13	1.14E+11	3.47E+07	3.68E-06	8.85E-12
42	138.96	2.05	1.33E+13	1.13E+11	3.27E+07	3.29E-06	8.85E-12
43	142.35	2.10	1.19E+13	1.13E+11	3.10E+07	2.97E-06	8.85E-12
44	145.74	2.15	1.05E+13	1.12E+11	2.90E+07	2.62E-06	8.85E-12
45	149.13	2.20	9.31E+12	1.12E+11	2.74E+07	2.34E-06	8.85E-12
46	152.52	2.25	8.09E+12	1.11E+11	2.55E+07	2.05E-06	8.85E-12
47	155.91	2.30	7.08E+12	1.11E+11	2.39E+07	1.80E-06	8.85E-12
48	159.30	2.35	6.11E+12	1.11E+11	2.22E+07	1.56E-06	8.85E-12
49	162.69	2.40	5.18E+12	1.10E+11	2.04E+07	1.32E-06	8.85E-12
50	166.08	2.45	4.33E+12	1.10E+11	1.87E+07	1.11E-06	8.85E-12
51	169.46	2.50	3.33E+12	1.10E+11	1.64E+07	8.56E-07	8.85E-12

MAXIMUM CONDUCTIVITY : 3.29E-06 (MHOS/M) 122

#POINT50#	NOZZLE RADIUS	#ROCKET	REDEYE	#	FREQUENCY	#
# 9.80 #	1.48E-02	#POSITION	5000(FT)/10(FT/S)	#	2.50E+09	#
# (M) #	(M)	#PRESSURE	0.832 (ATMOSPHERES)	#	(HZ)	#

# RADIAL # INDEX #	RELATIVE* RADIUS *	ABSOLUTE# RADIUS #	ELECTRON* DENSITY *	COLLISION# FREQUENCY #	PLASMA # FREQUENCY #	SIGMA *	EPSILON #
#	*	(M) #	(1/M3) *	(1/S) #	(1/S) #	(MHO/M) *	(FD/M) #
# 1 #	0.00 *	0.00 #	0. *	2.19E+11#	0. #	0. *	8.85E-12#
# 2 #	3.39 *	.05 #	0. *	2.18E+11#	0. #	0. *	8.85E-12#
# 3 #	6.78 *	.10 #	0. *	2.17E+11#	0. #	0. *	8.85E-12#
# 4 #	10.17 *	.15 #	1.78E+12*	2.16E+11#	1.20E+07#	2.32E-07*	8.85E-12#
# 5 #	13.56 *	.20 #	4.01E+12*	2.14E+11#	1.80E+07#	5.27E-07*	8.85E-12#
# 6 #	16.95 *	.25 #	4.50E+12*	2.12E+11#	1.90E+07#	5.98E-07*	8.85E-12#
# 7 #	20.34 *	.30 #	3.47E+12*	2.09E+11#	1.67E+07#	4.67E-07*	8.85E-12#
# 8 #	23.73 *	.35 #	2.58E+12*	2.06E+11#	1.44E+07#	3.53E-07*	8.85E-12#
# 9 #	27.11 *	.40 #	1.66E+12*	2.02E+11#	1.16E+07#	2.31E-07*	8.85E-12#
# 10 #	30.50 *	.45 #	1.58E+12*	1.98E+11#	1.13E+07#	2.24E-07*	8.85E-12#
# 11 #	33.89 *	.50 #	4.82E+12*	1.94E+11#	1.97E+07#	5.99E-07*	8.85E-12#
# 12 #	37.28 *	.55 #	1.27E+13*	1.90E+11#	3.20E+07#	1.99E-06*	8.85E-12#
# 13 #	40.67 *	.60 #	1.99E+13*	1.86E+11#	4.01E+07#	3.03E-06*	8.85E-12#
# 14 #	44.06 *	.65 #	2.60E+13*	1.81E+11#	4.58E+07#	4.05E-06*	8.85E-12#
# 15 #	47.45 *	.70 #	3.12E+13*	1.77E+11#	5.02E+07#	4.98E-06*	8.85E-12#
# 16 #	50.84 *	.75 #	3.56E+13*	1.72E+11#	5.36E+07#	5.82E-06*	8.85E-12#
# 17 #	54.23 *	.80 #	3.91E+13*	1.68E+11#	5.61E+07#	6.55E-06*	8.85E-12#
# 18 #	57.62 *	.85 #	4.18E+13*	1.64E+11#	5.80E+07#	7.18E-06*	8.85E-12#
# 19 #	61.01 *	.90 #	4.37E+13*	1.60E+11#	5.94E+07#	7.71E-06*	8.85E-12#
# 20 #	64.40 *	.95 #	4.50E+13*	1.56E+11#	6.02E+07#	8.13E-06*	8.85E-12#
# 21 #	67.79 *	1.00 #	4.56E+13*	1.52E+11#	6.07E+07#	8.44E-06*	8.85E-12#
# 22 #	71.18 *	1.05 #	4.58E+13*	1.49E+11#	6.07E+07#	8.66E-06*	8.85E-12#
# 23 #	74.56 *	1.10 #	4.55E+13*	1.46E+11#	6.05E+07#	8.80E-06*	8.85E-12#
# 24 #	77.95 *	1.15 #	4.49E+13*	1.43E+11#	6.01E+07#	8.85E-06*	8.85E-12#
# 25 #	81.34 *	1.20 #	4.38E+13*	1.40E+11#	5.94E+07#	8.83E-06*	8.85E-12#
# 26 #	84.73 *	1.25 #	4.25E+13*	1.37E+11#	5.85E+07#	8.73E-06*	8.85E-12#
# 27 #	88.12 *	1.30 #	4.10E+13*	1.35E+11#	5.75E+07#	8.58E-06*	8.85E-12#
# 28 #	91.51 *	1.35 #	3.93E+13*	1.32E+11#	5.63E+07#	8.37E-06*	8.85E-12#
# 29 #	94.90 *	1.40 #	3.75E+13*	1.30E+11#	5.50E+07#	8.11E-06*	8.85E-12#
# 30 #	98.29 *	1.45 #	3.56E+13*	1.28E+11#	5.36E+07#	7.83E-06*	8.85E-12#
# 31 #	101.68 *	1.50 #	3.36E+13*	1.26E+11#	5.21E+07#	7.50E-06*	8.85E-12#
# 32 #	105.07 *	1.55 #	3.16E+13*	1.25E+11#	5.05E+07#	7.16E-06*	8.85E-12#
# 33 #	108.46 *	1.60 #	2.96E+13*	1.23E+11#	4.89E+07#	6.78E-06*	8.85E-12#
# 34 #	111.85 *	1.65 #	2.77E+13*	1.22E+11#	4.72E+07#	6.41E-06*	8.85E-12#
# 35 #	115.24 *	1.70 #	2.57E+13*	1.20E+11#	4.55E+07#	6.01E-06*	8.85E-12#
# 36 #	118.63 *	1.75 #	2.39E+13*	1.19E+11#	4.38E+07#	5.62E-06*	8.85E-12#
# 37 #	122.01 *	1.80 #	2.19E+13*	1.18E+11#	4.20E+07#	5.23E-06*	8.85E-12#
# 38 #	125.40 *	1.85 #	2.01E+13*	1.17E+11#	4.02E+07#	4.83E-06*	8.85E-12#
# 39 #	128.79 *	1.90 #	1.84E+13*	1.16E+11#	3.85E+07#	4.46E-06*	8.85E-12#
# 40 #	132.18 *	1.95 #	1.66E+13*	1.15E+11#	3.65E+07#	4.05E-06*	8.85E-12#
# 41 #	135.57 *	2.00 #	1.51E+13*	1.15E+11#	3.49E+07#	3.72E-06*	8.85E-12#
# 42 #	138.96 *	2.05 #	1.39E+13*	1.14E+11#	3.30E+07#	3.34E-06*	8.85E-12#
# 43 #	142.35 *	2.10 #	1.22E+13*	1.13E+11#	3.14E+07#	3.05E-06*	8.85E-12#
# 44 #	145.74 *	2.15 #	1.06E+13*	1.13E+11#	2.95E+07#	2.70E-06*	8.85E-12#
# 45 #	149.13 *	2.20 #	9.72E+12*	1.12E+11#	2.80E+07#	2.44E-06*	8.85E-12#
# 46 #	152.52 *	2.25 #	8.53E+12*	1.12E+11#	2.62E+07#	2.15E-06*	8.85E-12#
# 47 #	155.91 *	2.30 #	7.60E+12*	1.11E+11#	2.48E+07#	1.93E-06*	8.85E-12#
# 48 #	159.30 *	2.35 #	6.68E+12*	1.11E+11#	2.32E+07#	1.70E-06*	8.85E-12#
# 49 #	162.69 *	2.40 #	5.79E+12*	1.10E+11#	2.16E+07#	1.48E-06*	8.85E-12#
# 50 #	166.08 *	2.45 #	4.97E+12*	1.10E+11#	2.00E+07#	1.27E-06*	8.85E-12#
# 51 #	169.46 *	2.50 #	3.93E+12*	1.10E+11#	1.78E+07#	1.01E-06*	8.85E-12#

MAXIMUM CONDUCTIVITY : 8.85E-06 (MHOS/M) 123

POINT51	NOZZLE RADIUS	ROCKET	REDEYE	FREQUENCY
10.00	1.49E-02	POSITION	5000(FT)/10(FT/S)	2.50E+08
(M)	(M)	PRESSURE	0.832 (ATMOSPHERES)	(HZ)

RADIAL INDEX	RELATIVE RADIUS (M)	ABSOLUTE RADIUS (M)	ELECTRON DENSITY (1/M3)	COLLISION FREQUENCY (1/S)	PLASMA FREQUENCY (1/S)	SIGMA (MHO/M)	EPSILON (FO/M)
1	0.00	0.00	0.	2.17E+11	0.	0.	8.85E-12
2	3.39	.05	0.	2.17E+11	0.	0.	8.85E-12
3	6.76	.10	0.	2.16E+11	0.	0.	8.85E-12
4	10.17	.15	0.	2.15E+11	0.	0.	8.85E-12
5	13.56	.20	0.	2.13E+11	0.	0.	8.85E-12
6	16.95	.25	1.03E+12	2.11E+11	9.12E+06	1.39E-07	8.85E-12
7	20.34	.30	1.82E+12	2.08E+11	1.21E+07	2.47E-07	8.85E-12
8	23.73	.35	1.88E+12	2.05E+11	1.23E+07	2.59E-07	8.85E-12
9	27.11	.40	1.33E+12	2.02E+11	1.03E+07	1.85E-07	8.85E-12
10	30.50	.45	1.29E+12	1.98E+11	1.02E+07	1.84E-07	8.85E-12
11	33.89	.50	3.32E+12	1.94E+11	1.75E+07	5.54E-07	8.85E-12
12	37.28	.55	1.13E+13	1.90E+11	3.02E+07	1.68E-06	8.85E-12
13	40.67	.60	1.82E+13	1.86E+11	3.83E+07	2.77E-06	8.85E-12
14	44.06	.65	2.40E+13	1.81E+11	4.40E+07	3.74E-06	8.85E-12
15	47.45	.70	2.90E+13	1.77E+11	4.84E+07	4.62E-06	8.85E-12
16	50.84	.75	3.32E+13	1.73E+11	5.17E+07	5.42E-06	8.85E-12
17	54.23	.80	3.66E+13	1.68E+11	5.43E+07	6.12E-06	8.85E-12
18	57.62	.85	3.92E+13	1.64E+11	5.62E+07	6.72E-06	8.85E-12
19	61.01	.90	4.12E+13	1.60E+11	5.76E+07	7.24E-06	8.85E-12
20	64.40	.95	4.25E+13	1.57E+11	5.85E+07	7.65E-06	8.85E-12
21	67.79	1.00	4.32E+13	1.53E+11	5.90E+07	7.96E-06	8.85E-12
22	71.18	1.05	4.35E+13	1.50E+11	5.92E+07	8.19E-06	8.85E-12
23	74.56	1.10	4.33E+13	1.46E+11	5.91E+07	8.34E-06	8.85E-12
24	77.95	1.15	4.28E+13	1.43E+11	5.87E+07	8.42E-06	8.85E-12
25	81.34	1.20	4.20E+13	1.40E+11	5.82E+07	8.42E-06	8.85E-12
26	84.73	1.25	4.08E+13	1.38E+11	5.73E+07	8.35E-06	8.85E-12
27	88.12	1.30	3.95E+13	1.35E+11	5.64E+07	8.23E-06	8.85E-12
28	91.51	1.35	3.80E+13	1.33E+11	5.53E+07	8.06E-06	8.85E-12
29	94.90	1.40	3.63E+13	1.31E+11	5.41E+07	7.83E-06	8.85E-12
30	98.29	1.45	3.46E+13	1.29E+11	5.28E+07	7.58E-06	8.85E-12
31	101.68	1.50	3.28E+13	1.27E+11	5.14E+07	7.28E-06	8.85E-12
32	105.07	1.55	3.10E+13	1.25E+11	5.00E+07	6.98E-06	8.85E-12
33	108.46	1.60	2.91E+13	1.24E+11	4.84E+07	6.63E-06	8.85E-12
34	111.85	1.65	2.73E+13	1.22E+11	4.69E+07	6.29E-06	8.85E-12
35	115.24	1.70	2.54E+13	1.21E+11	4.52E+07	5.92E-06	8.85E-12
36	118.63	1.75	2.36E+13	1.20E+11	4.36E+07	5.56E-06	8.85E-12
37	122.01	1.80	2.19E+13	1.18E+11	4.19E+07	5.19E-06	8.85E-12
38	125.40	1.85	2.01E+13	1.17E+11	4.02E+07	4.82E-06	8.85E-12
39	128.79	1.90	1.84E+13	1.16E+11	3.86E+07	4.46E-06	8.85E-12
40	132.18	1.95	1.67E+13	1.15E+11	3.67E+07	4.07E-06	8.85E-12
41	135.57	2.00	1.53E+13	1.15E+11	3.52E+07	3.76E-06	8.85E-12
42	138.96	2.05	1.37E+13	1.14E+11	3.32E+07	3.39E-06	8.85E-12
43	142.35	2.10	1.25E+13	1.13E+11	3.18E+07	3.12E-06	8.85E-12
44	145.74	2.15	1.11E+13	1.13E+11	2.99E+07	2.78E-06	8.85E-12
45	149.13	2.20	1.01E+13	1.12E+11	2.85E+07	2.54E-06	8.85E-12
46	152.52	2.25	8.97E+12	1.12E+11	2.69E+07	2.26E-06	8.85E-12
47	155.91	2.30	8.12E+12	1.11E+11	2.56E+07	2.05E-06	8.85E-12
48	159.30	2.35	7.24E+12	1.11E+11	2.42E+07	1.84E-06	8.85E-12
49	162.69	2.40	6.41E+12	1.11E+11	2.27E+07	1.63E-06	8.85E-12
50	166.08	2.45	5.61E+12	1.10E+11	2.13E+07	1.43E-06	8.85E-12
51	169.46	2.50	4.52E+12	1.10E+11	1.91E+07	1.16E-06	8.85E-12

MAXIMUM CONDUCTIVITY : 8.42E-06 (MHOS/M) 124

BASE UNITS:

Quantity	Unit	SI Symbol	Formula
length	metre	m	...
mass	kilogram	kg	...
time	second	s	...
electric current	ampere	A	...
thermodynamic temperature	kelvin	K	...
amount of substance	mole	mol	...
luminous intensity	candela	cd	...

SUPPLEMENTARY UNITS:

plane angle	radian	rad	...
solid angle	steradian	sr	...

DERIVED UNITS:

Acceleration	metre per second squared	...	m/s
activity (of a radioactive source)	disintegration per second	...	(disintegration)/s
angular acceleration	radian per second squared	...	rad/s
angular velocity	radian per second	...	rad/s
area	square metre	...	m
density	kilogram per cubic metre	...	kg/m
electric capacitance	farad	F	A-s/V
electrical conductance	siemens	S	A/V
electric field strength	volt per metre	...	V/m
electric inductance	henry	H	V-s/A
electric potential difference	volt	V	W/A
electric resistance	ohm		V/A
electromotive force	volt	V	W/A
energy	joule	J	N-m
entropy	joule per kelvin	...	J/K
force	newton	N	kg-m/s
frequency	hertz	Hz	(cycle)/s
illuminance	lux	lx	lm/m
luminance	candela per square metre	...	cd/m
luminous flux	lumen	lm	cd-sr
magnetic field strength	ampere per metre	...	A/m
magnetic flux	weber	Wb	V-s
magnetic flux density	tesla	T	Wb/m
magnetomotive force	ampere	A	...
power	watt	W	J/s
pressure	pascal	Pa	N/m
quantity of electricity	coulomb	C	A-s
quantity of heat	joule	J	N-m
radiant intensity	watt per steradian	...	W/sr
specific heat	joule per kilogram-kelvin	...	J/kg-K
stress	pascal	Pa	N/m
thermal conductivity	watt per metre-kelvin	...	W/m-K
velocity	metre per second	...	m/s
viscosity, dynamic	pascal-second	...	Pa-s
viscosity, kinematic	square metre per second	...	m/s
voltage	volt	V	W/A
volume	cubic metre	...	m
wavenumber	reciprocal metre	...	(wave)/m
work	joule	J	N-m

SI PREFIXES:

Multiplication Factors	Prefix	SI Symbol
1 000 000 000 000 = 10^{12}	tera	T
1 000 000 000 = 10^{9}	giga	G
1 000 000 = 10^{6}	mega	M
1 000 = 10^{3}	kilo	k
100 = 10^{2}	hecto*	h
10 = 10^{1}	deka*	da
0.1 = 10^{-1}	deci*	d
0.01 = 10^{-2}	centi*	c
0.001 = 10^{-3}	milli	m
0.000 001 = 10^{-6}	micro	μ
0.000 000 001 = 10^{-9}	nano	n
0.000 000 000 001 = 10^{-12}	pico	p
0.000 000 000 000 001 = 10^{-15}	femto	f
0.000 000 000 000 000 001 = 10^{-18}	atto	a

* To be avoided where possible.

MISSION
of
Rome Air Development Center

RADC plans and conducts research, exploratory and advanced development programs in command, control, and communications (C^3) activities, and in the C^3 areas of information sciences and intelligence. The principal technical mission areas are communications, electromagnetic guidance and control, surveillance of ground and aerospace objects, intelligence data collection and handling, information system technology, ionospheric propagation, solid state sciences, microwave physics and electronic reliability, maintainability and compatibility.